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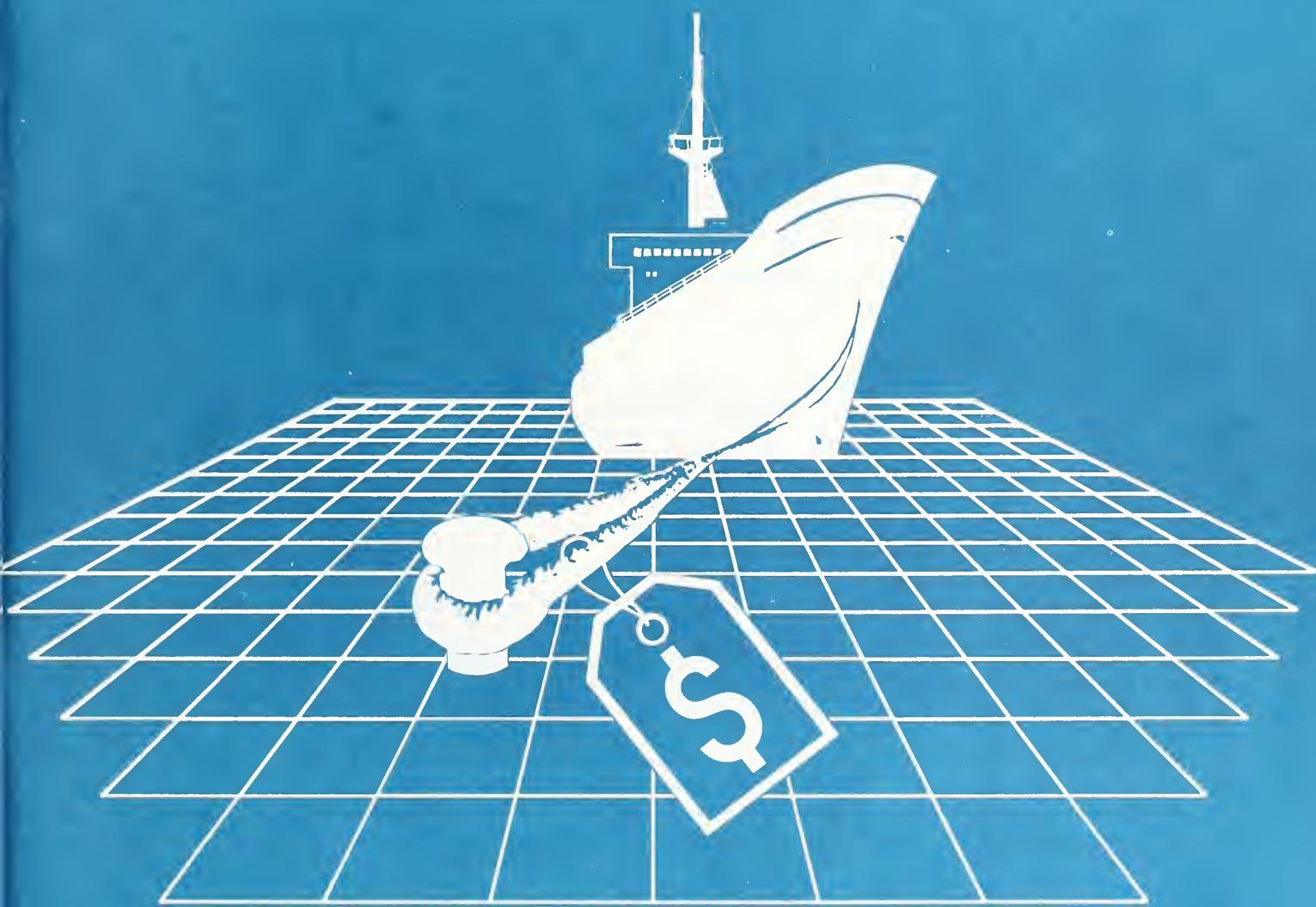
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# High-Value Agricultural Exports

## U.S. Opportunities in the 1980's

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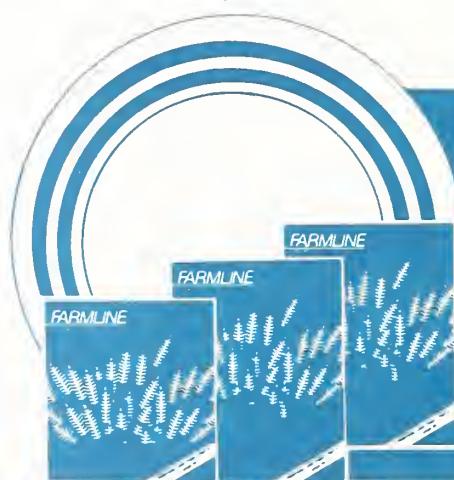
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**High-Value Agricultural Exports: U.S. Opportunities in The 1980's.**  
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**Abstract**

World trade in high-value agricultural products (HVP's) grew fast enough over the 1970's to surpass the trade in low-value bulk products (LVP's) that traditionally dominated the market. Despite its plentiful supply of high-quality, low-priced inputs and processing capacity, the United States has been hard pressed to maintain its share of this expanding HVP market. The European Community, on the other hand, has used export subsidies and aggressive export promotion to dominate the market and has enjoyed considerable payoff in employment, gross national product, and export earnings. The United States can increase its share of the expanding HVP export market likely in the 1980's if it adopts a more aggressive export promotion stance, expands and refocuses the trade programs it already has in place, and successfully pressures other exporters and importers to liberalize their HVP trade policies.

**Keywords:** World trade, high-value farm products, trade policy, U.S. agricultural exports.

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## Summary

The unprecedented export gains the United States made over the 1970's in the world market for bulk, generally low-value farm products (LVP's) tended to distract attention from the rapidly emerging world market for high-value, generally processed farm products (HVP's). World trade in HVP's expanded rapidly in the 1970's and ultimately surpassed the trade in LVP's that traditionally dominated the market. By 1980, almost 53 percent of the world's \$230 million in agricultural trade was made up of HVP's, compared with 44-46 percent a decade earlier. Moreover, trade in HVP's continued to grow in 1981 and 1982, despite a significant recession-related slowdown in world LVP trade, and currently accounts for an even larger share of the trade total.

While the U.S. share of world LVP trade increased sharply over the 1970's from roughly a quarter to over half, the U.S. share of HVP trade stagnated at 9-10 percent. In a world market shifting toward trade in processed products, U.S. exports remained heavily concentrated in raw materials. This difference in the product composition of trade explains the apparently contradictory gains the United States made in its volume share of world agricultural trade and the stagnation it experienced in its value share. Although the U.S. share of world trade in farm products measured in volume terms nearly doubled from 20 percent in 1970 to 39 percent in 1980, the U.S. share by value remained largely unchanged at 15-18 percent.

Other HVP exporters, particularly the European Community, were quick to recognize that exporting high-value farm products yielded a substantially higher payoff than exporting low-value products because of the added economic activity involved. Several of the largest HVP competitors of the United States adopted aggressive export promotion programs, often including large export subsidies, to capture what have generally proven to be substantial payoffs in the form of added employment and economic activity. In many cases, this use of export subsidies allowed aggressive traders to undercut prices for similar but unsubsidized products available from even the lowest cost suppliers.

The further growth in HVP trade likely in the 1980's will provide the United States with an opportunity to modify the mix of products it exports to take greater advantage of HVP employment and gross national product (GNP) payoffs. The strong HVP import growth of the 1970's is expected to continue through the 1980's, although the pace of growth is likely to slow somewhat from 17-18 percent to possibly 9-12 percent. Given this import demand potential, the United States will be in a position to possibly triple its HVP sales abroad by 1990 and raise its share of the world market from 10 to possibly 15 percent without sacrificing leadership in the LVP market.

Most of the U.S. trade programs necessary to capitalize on this forecast growth in HVP import demand are already in place and have been used successfully to make the United States the leader in the bulk farm trade. With some redirection and additional funding, those programs could increase U.S. HVP sales abroad by 1990 to \$15 billion more than the \$29-\$39 billion likely with a constant U.S. market share. This increase in trade would result in possibly \$50 billion more GNP and generate an additional 1 million jobs. In order to be successful, however, an expanded U.S. export promotion program would have to be reinforced by policy efforts aimed at winning liberalization of both the HVP import and export programs in place abroad.

Several developments over the 1980's, if taken advantage of, should also help to improve the U.S. position in the HVP market. The subsidies paid by the EC to capture a disproportionate share of the HVP market are proving increasingly costly. Many developing country exporters are also facing increased pressure to slow future growth in HVP exports in order to supply their own populations with the products necessary to upgrade and diversify diets. However, aggressive U.S. HVP marketing will be needed as growth in the supplies of HVP's available on the world market are expected to be ample—even abundant—relative to growth in import demand and as competition among exporters remains keen through at least 1990.

*The Metric Units* used in this report, with their abbreviations and American equivalents, are given below:

1 tonne (t) = 1 metric ton = 2,204.62 pounds  
1 kilogram (kg) = 2.204 pounds  
1 hectoliter (hl) = 105.62 quarts = 26.41 gallons

*The Groups of Countries* discussed in the report, with their members, are identified below.

Developed countries—Australia, Canada, Israel, Japan, Republic of South Africa, United States, Western Europe

Developing countries—Africa (except Republic of South Africa), East and Southeast Asia (except Japan, China, Vietnam, North Korea), Latin America (except Cuba), Oceania (except Australia and New Zealand), South Asia, Taiwan, and West Asia (except Israel)

Centrally planned countries—China, Cuba, Eastern Europe, North Korea, USSR, and Vietnam

OPEC (Organization of Petroleum Exporting Countries)—Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, Venezuela

EC (EC-9, European Community)—Belgium, Denmark, France, Ireland, Italy, Luxembourg, Netherlands, United Kingdom, West Germany. EC-10 includes those countries plus Greece, which became a member in January 1981, but is for the most part treated separately in this study.

# High-Value Agricultural Exports: U.S. Opportunities in The 1980's

## Introduction

World trade in high-value farm products (HVP's) grew fast enough over the 1970's to surpass the trade in bulk, low-value farm products (LVP's) that traditionally dominated world agricultural trade. By 1980, a decade of growth at more than 17 percent per year pushed the value of HVP trade worldwide up to \$120 billion compared with the \$110 billion traded in LVP's. (See the box on page 2 for definitions of HVP's and LVP's.)

The United States was hard pressed to maintain its share of this rapidly expanding HVP export market. U.S. HVP exports grew fractionally faster than world trade but appreciably slower than could have been expected given the U.S. comparative advantage in producing low-cost, high-quality inputs and efficiency in processing farm products. Marked success in expanding its share of the LVP market over the 1970's appears to have distracted U.S. attention from export opportunities in high-value products. Conversely, HVP processing and export subsidies combined with aggressive marketing programs focused on high-value farm products put the EC and several other developed exporters in a strong position to capture a disproportionately large share of the market.

This study assesses development in the world market for high-value farm products over the 1970's and prospects for further growth in the 1980's. Particular emphasis is put on assessing U.S. performance in the market and the potential payoff on expanded U.S. exports in the 1980's.

The study concludes that the rate of growth in world HVP imports is likely to slow somewhat in the 1980's but that increases in the value of HVP trade are likely to exceed the \$10-billion-per-year record set in the 1970's. The somewhat slower growth in HVP trade expected in the 1980's is forecast on the basis of increased market saturation in the most affluent developed countries as well as increased emphasis on developing local HVP processing capacity in the low-income developed and high-income developing countries. Even should this slowdown

in the pace of growth materialize, however, HVP trade is still likely to be world agriculture's leading growth sector.

Given their extensive investment in processing capacity and commitments to HVP export expansion, the major HVP exporters are likely to respond to any slowdown in growth in world import demand by increasing efforts to expand their market shares. U.S. interest in the HVP export market is also likely to increase over the decade ahead as a means not only of expanding sales of farm products but of increasing employment and economic activity in the rest of the U.S. economy as well. However, a concerted marketing effort and a more aggressive trade policy will be necessary if the United States is to take full advantage of the opportunities ahead.

## Trade Patterns in the 1970's

Two distinct world markets for farm products emerged during the 1970's—a market for bulk, low-value products and a market for high-value, generally processed products. Increased affluence and growth in population generated strong increases in demand for basic foods and feedstuffs—increases in demand that many countries could not supply locally. The resulting growth in import demand was particularly strong for grains and oilseeds, and the United States succeeded in capturing almost two-thirds of the expansion in this bulk market.

Increased affluence in a smaller circle of developed and middle-income countries also generated increased demand for higher value, generally processed, farm products. Included among the products in this second group were *highly processed* items to upgrade and diversify diets, *semiprocessed* products for use in the local production of highly processed consumer-ready products, and *unprocessed but high-value* items often not available locally or seasonal in nature. This growth in demand was fast enough, particularly for the newer products initially

considered luxury items, to outpace growth in local production or processing capacity. The result was a significant increase in world HVP import demand in the developed countries and a veritable explosion in HVP import demand in the middle-income countries (fig. 2). Import demand increased most rapidly for meats, dairy products, beverages, and other food preparations.

This increase in HVP import demand was filled by the EC and by a few other generally developed countries with a sizable processing infrastructure and excess capacity already in place (fig. 3).<sup>1</sup> Despite its considerable cost advantage in producing bulk products for processing and its processing efficiencies, however, the United States was hard pressed to maintain its 10-percent share of the HVP market.

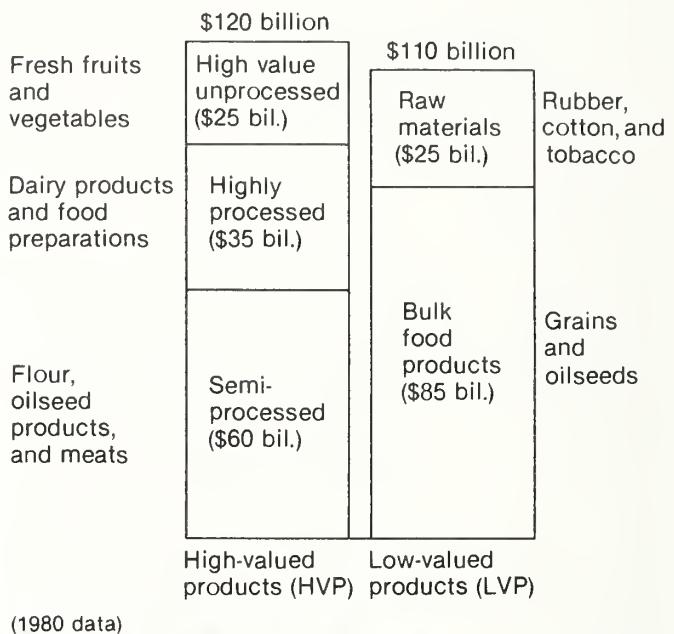
The result of these U.S. and world HVP and LVP trade developments was a dramatic shift of the U.S. position in the farm products market. The U.S. share of world agricultural exports increased substantially over the 1970's into the 1980's if measured in *volume* terms. Almost two-fifths of all the farm products traded in the world now originate in the United States, compared with one-fifth in 1970 (table 1). Measured in *value* terms, however, the U.S. share of world agricultural exports stagnated at about one-sixth. The U.S. share of the world agricultural market actually declined several percentage points if the full range of processed farm products—including items such as leather goods and textiles not normally included in the agricultural trade total—is considered.

These same forces affecting the composition of trade are reflected even more graphically in changes in U.S. and world export unit values over the 1970's. The average price the United States received for its farm exports doubled over the decade in nominal terms, but failed to keep pace with inflation. U.S. export prices also failed to keep up with the tripling and quadrupling in export prices enjoyed by other exporters, particularly HVP-oriented exporters like the EC. U.S. farm export prices fell from two-thirds of the world average in 1970 to less than half in 1980.

The dramatic slowdown in growth in farm trade experienced in 1981, 1982, and so far in 1983 has reinforced these developments. With both prices and volume off in

Figure 1.

## **Emergence of a Second World Market for Farm Products**



HVP's are divided into three groups:

- *Semiprocessed products* which include, for example, fresh, chilled, and frozen meat (SITC code number 011), wheat flour, (046), refined sugar (612), coffee (071), cocoa (072), tea (074), animal feeds (081.2, 081.4, and 081.9), oilseed cake and meal (081.3), animal oils and fats (411), and vegetable oil (423-424).
- *Highly processed products* which include prepared and preserved meats (012 and 014), milk (022), butter (023), cheese (024), cereal preparations (048), dried fruit (052), preserved/prepared fruit (053), preserved/prepared vegetables (055), nonchocolate sugar preparations (062), chocolate (073), spices (075), miscellaneous food preparations (09), beverages (11), and cigarettes (122.2).
- *High-value unprocessed products* which include eggs (025), fresh fruits and nuts (051), and fresh vegetables (054).

All other products were classified as low-value products (LVP's).

<sup>1</sup>The European Community is treated as a single unit here because the Common Agricultural Policy (CAP) assures uniformity in import regulations and similar treatment of exports while the member countries' high income and common tastes tend to make demand patterns similar.

Figure 2.

### World Trade in Agricultural Products

Total and High-Value Products

\$ bil.

250

200  
150  
100  
50  
0

Total  
High-Value Products

1970 72 74 76 78 80 82

Figure 3.

### U.S. Trade in Agricultural Products

Total and High-Value Products

\$ bil.

50

40  
30  
20  
10  
0

Total  
High-Value Products

1970 72 74 76 78 80 82

the bulk market, the U.S. share of world agricultural trade measured in value terms has fallen to 16 percent while the U.S. share of world trade volume has continued at roughly 40 percent. The average U.S. export unit value has fallen off from \$260 per tonne in 1980 to \$225-\$230 per tonne in 1983.

The sources of growth in trade also differed sharply between the HVP and LVP markets and U.S. exports have tended to reflect the characteristics of the LVP rather than the HVP market. Growth in the value of U.S. farm exports over the 1970's, like that of LVP exports in general, was due almost equally to gains in export volumes and gains in unit prices. LVP trade volumes increased by 7-9 percent per year while LVP unit prices increased by 8-9 percent. Gains in HVP trade, in contrast, were due to a far greater extent to gains in prices; HVP export volume gains averaged less than 6 percent while price gains averaged 10-14 percent per year. Given the 9-percent pace of inflation experienced over this same period, the real price the United States received for its farm products, particularly its bulk products, declined by 1-2 percent per year while real HVP prices increased by 2-3 percent per year.

The LVP half of the market is also more unstable than the HVP half; the interannual fluctuations experienced in LVP trade volume and prices have been several times greater than the swings experienced in HVP trade. As a result, the U.S. concentration of exports in bulk products has tended to worsen instability in commodity prices and

Table 1—U.S. agricultural export performance indicators

Item	Unit	1969-71 average	1979-81 average
U.S. share of world agricultural exports:			
By volume	Percent	20	39
By value	do.	15	18
Agricultural export unit values			
World average	Dollars	190	530
U.S. average	do.	125	260
Interannual variability <sup>1</sup> :			
World trade volume	Percent	3	4
World trade value	do.	5	8
U.S. trade volume	do.	8	9
U.S. trade value	do.	9	14

<sup>1</sup>Measured as the standard error of the regression from time series regression analyses of data for the 1960's and 1970's. The percentages are best interpreted as measures of instability, i.e., how likely market prices and quantities are to fluctuate from year to year.

Source: FAO Trade Yearbooks, 1975-81 issues; *Foreign Agricultural Trade of the United States*, Economic Research Service, U.S. Dept. of Agriculture, various issues; and ERS estimates.

farm returns. As with unit values and volume and value shares, this instability problem has worsened so far in the 1980's; interannual variability increased significantly both in the bulk market in general and in U.S. exports in particular.

Equally important, the concentration of U.S. exports in the LVP market has tended to minimize the positive impacts farm exports have had on economic activity outside the farm sector. In the simplest terms, HVP exports involve selling both a product and a service—a service that tends to be capital- and labor-intensive and involves a wide range of economic activities. LVP exports, on the other hand, involve exporting a bulk product with relatively little labor input and involving only a few areas of the economy outside of agriculture.

The feedstuff and wheat examples shown in figures 4-5 make this payoff point graphically. The concentration of U.S. agricultural exports near the bottom of the food grain and feedstuffs processing line means that the employment associated with wheat and feedstuff exports is 25-50 percent of what it could be with more balanced shipments of bulk, semiprocessed, and highly processed products—an export basket more in keeping with the mix of products produced and consumed domestically in the United States.

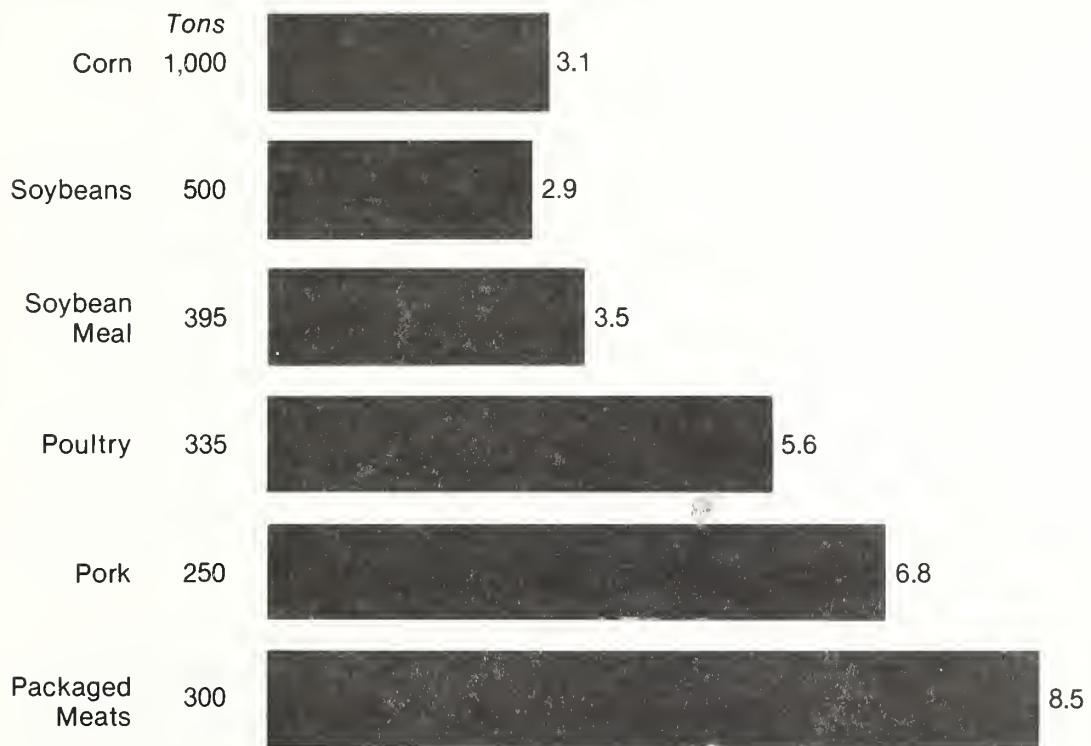
The loss in economic activity was even larger; the concentration on bulk exports limited the U.S. GNP associated with farm trade to less than half that enjoyed by countries with a more balanced mix of exports. For example, the EC's export of \$1 billion in primarily processed farm products generated almost 50 percent more employment and economic activity than \$1 billion in bulk grain and oilseeds exports from the United States. The U.S. concentration of its exports in bulk products is a classic example of "cordwooding"—i.e., having control of a potentially valuable resource or commodity (oak timber) and selling it as a low-value product (oak cordwood) rather than identifying alternative demand for the good, combining services with the good, and marketing a higher value product (oak doors).

The HVP export pattern that emerged over the 1970's was due as much to the government trade and agricultural policies and programs at play abroad as to market forces in the United States. The aggressive HVP export promotion and subsidy programs of other countries, particularly the EC, helped to neutralize the U.S. advantage in producing high-quality, low-cost inputs and low processing costs and to keep the U.S. share of the world market down to 9-10 percent. Most U.S. trade programs in

Figure 4.

### Labor Required to Export Selected Farm Products

Employment Required to Export 1,000 Tons of Feedstuffs as:



Employment Required to Export 1,000 Tons of Wheat as:

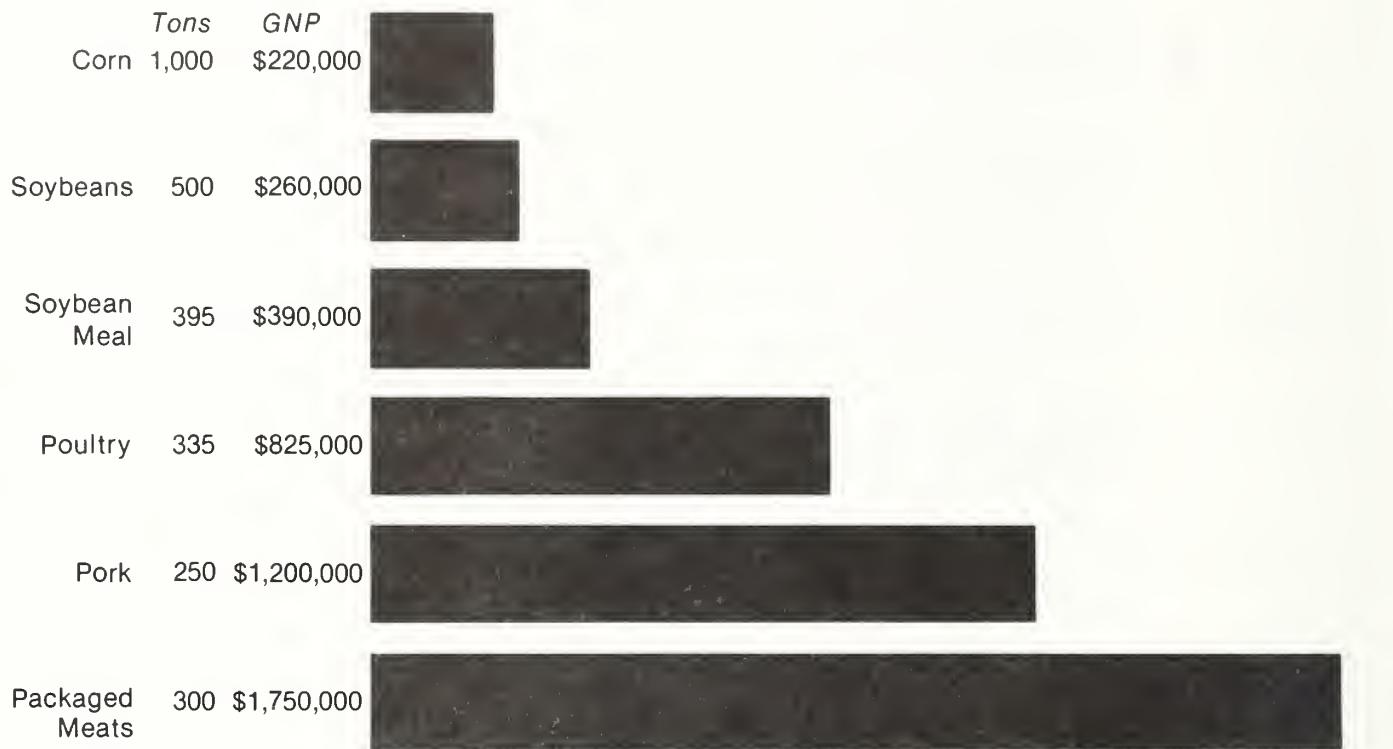


(1980 data)

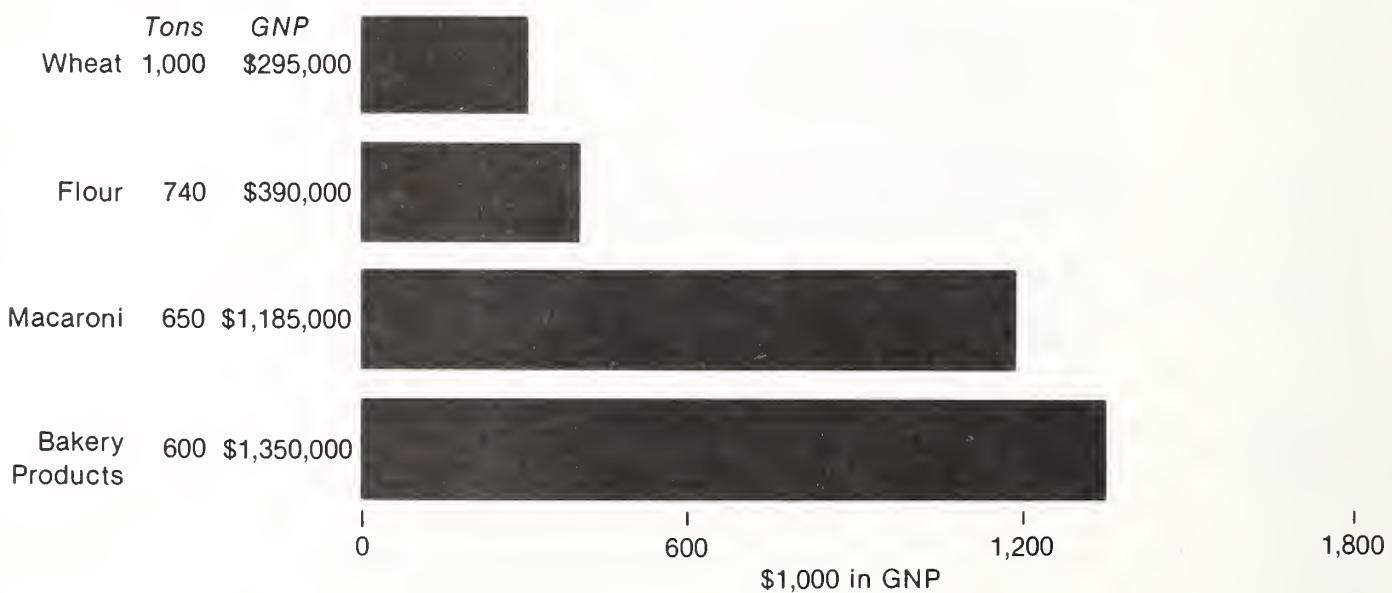
Figure 5.

### GNP Generated in Exporting Selected Farm Products

GNP Generated in Exporting 1,000 Tons of Feedstuffs as:



GNP Generated in Exporting 1,000 Tons of Wheat as:



(1980 data)

operation over the decade also concentrated in expanding bulk farm exports. Moreover, aggressive HVP marketing by other countries, combined with the U.S. emphasis on the LVP market, tended not only to slow U.S. growth in HVP exports but also to concentrate the HVP sales made in the semiprocessed rather than highly processed categories.

### U.S. Opportunities in the 1980's

Most of the factors that encouraged growth in HVP trade in the 1970's appear likely to continue in the 1980's. Growth in HVP import demand is likely to slow somewhat, however, from the 17-percent rate of the last 10 years to possibly 9-12 percent per year (fig. 6). Per capita consumption levels in several of the developed countries are approaching saturation levels and many developing countries are concentrating on increasing their local HVP production and processing capacities. It was this lack of local processing capacity in many of the fastest growing developing countries, as well as further diet diversification in the developed countries, that fueled the HVP import growth of the 1970's.

The HVP sector is still likely, however, to dominate growth in farm trade as the push to upgrade and diversify diets continues and as the capital- and technology-intensive nature of HVP processing capacity continues to keep many countries dependent on imports. Even with the pace of growth slowed, however, annual increases in HVP trade could range up to \$20 billion per year toward the end of the decade.

The product composition of HVP demand in the 1980's is likely to be such that at least 9-10 percent of world import demand will continue to be supplied by the United States. The U.S. cost advantage in producing and marketing many semiprocessed products has proven difficult for other HVP exporters to overcome even with large subsidies. But for the United States to gain any significantly larger share of the market, it will need to adopt a more aggressive HVP marketing strategy and increase trade policy pressure to contain, hopefully reduce, the export subsidy and import restrictions at work abroad. An effective U.S. HVP marketing initiative would have to include refocusing of *existing trade programs* and the development of several *new programs*.

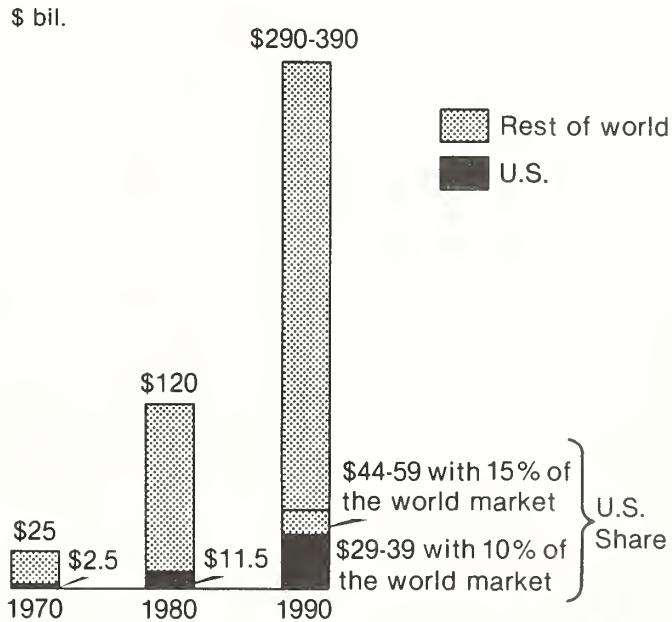
Among the programs to be considered for refocusing and funding at higher levels are the export promotion program, the P.L. 480 program, the Commodity Credit Corporation's (CCC) export credit program, and the

foreign agricultural information system. All of these programs have been used successfully over the last two decades to expand U.S. exports of bulk products such as grains and oilseeds. They have not, however, provided much support for expanding U.S. HVP exports—except for a narrow range of products like flour and vegetable oils in limited instances. All four programs can redirect part of their efforts to promote U.S. HVP sales. But substantially more funding will be needed to maintain the U.S. competitive edge in the LVP market while improving the U.S. position in the HVP market.

Also needed to enhance the effectiveness of these existing programs are several new programs—including programs designed to increase U.S. suppliers' awareness of and interest in the world HVP market. The basket of farm products currently being exported by the United States is not representative of the basket of products produced for domestic use. Much of the HVP trade growth of the 1970's ultimately was due to foreign imitation of U.S. HVP consumption patterns. Many U.S. producers involved in the farm export trade have not fully recognized the importance of the similarity between demand patterns here and abroad and the opportunities they offer for U.S. HVP exports. Hence, an educational effort in the United States to promote processing for export as well as support for investment in HVP capacity and marketing is also needed in this area.

Figure 6.

### High-Value Products' Prospects for the 1980's Slower Growth But Still The Leading Trade Sector



A more imaginative approach to the problem of interesting U.S. producers in the HVP market and expanding foreign interest in U.S. HVP products might also center on the creation of HVP trading companies. The Japanese, and more recently the Brazilians, have successfully used national marketing and trading companies to serve as intermediaries facilitating trade. Their knowledge of foreign demand, their home country's supply, and the mechanics of trade enable these companies both to expand and to shape farm trade. Given the large number of diverse HVP processors in the United States with a potential stake in the export market but with limited foreign marketing experience, the role for such companies in expanding and shaping U.S. HVP exports could be considerable.

Because of the extensive HVP trade policies used by the other HVP exporters to expand their share of the market, any significant improvement in the U.S. marketing position won through more aggressive marketing could be offset with a relatively small increase in foreign export subsidies. Hence, the gains made by more aggressive HVP marketing will have to be protected through a more aggressive trade policy stance aimed at limiting, or even reversing, unlawful interference in the market by other exporters.

The policy initiatives likely to be most successful in protecting U.S. gains are those that stop short of a costly all-out trade war but that make the financial and political cost of foreign government intervention in the market unacceptably high. Such an effort by the United States could take the form of selective subsidy pressure in markets where the United States has the greatest leverage and the least exposure—i.e., markets where the cost of a subsidy to the United States would be small due to the limited volume of a product exported, but where the cost of countering the subsidy to the other exporter would be large due to its sizable export volume.

The effort to maximize the cost of foreign export subsidy programs could take the form of complaints under the Trade Agreements Act of 1979 or a grievance under the General Agreement on Trade and Tariffs and its Code on Subsidies. It could also, however, include pressure to liberalize trade policy in whatever forums are available to the United States. The ultimate goal of a more equitable sharing of the world market is likely to be served best by combining complaint and reform pressure with a more aggressive marketing stance including greater efforts at quality control, tailoring products to meet importer specification, and increasing U.S. HVP processors' awareness of HVP export opportunities.

The cost of these marketing and policy initiatives is likely to be large enough to raise questions about their payoff. Given the employment and GNP associated with HVP production and trade, however, the payoff would be significant. Expanding the U.S. share of the world HVP market from 10-15 percent, for example, by 1990 could mean 1 million more jobs, up to \$50 billion more GNP, and \$10 billion more in Government revenue per year. The potential for this very favorable return on U.S. HVP export efforts relates directly to the labor and capital intensity of food processing in general and, more particularly, to the abundant supplies of high-quality, low-priced inputs and efficient processing capacity available in the United States.

Implementing such a program does not mean that the United States will abandon its position as the major world supplier of bulk farm products. Rather, it will entail restructuring U.S. farm exports over time to include the mix of HVP and LVP exports that will maximize the return on trade for both the agricultural sector and the rest of the economy.

## Structure of the HVP Market

*The structure of the HVP market differs substantially from the structure of the bulk or LVP market. The number of countries involved in the trade both as importers and exporters and the range of products traded are substantially greater in the high-value market than in the low-value market.*

*The sources of growth in the two markets also differ substantially. Price gains rather than volume gains have been the chief source of HVP growth while the LVP market has been marked by a closer balance between volume and value gains. Moreover, while the LVP trade involves the sale of a good only and has tended to suffer from declining real prices, the*

*HVP trade involves the sale of both a good and a service. It is the rising real cost of the service involved in producing HVP's, as opposed to declining real prices for the bulk farm products used as inputs, that has kept the price of high-value products rising at or above the general inflation rate.*

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World trade in agricultural products has undergone several marked changes in composition and direction since World War II that led to the emergence of a large and growing market for high-value farm products. By 1980, trade in semiprocessed, processed, and high-value but unprocessed farm products—all referred to hereafter as HVP's (see box on p. 2)—had grown to more than \$120 billion. The 17-percent-per-year growth in HVP trade experienced during the 1970's matched and eventually surpassed growth in the lower-value, generally unprocessed products—hereafter referred to as LVP's—that traditionally dominated world agricultural trade.

The United States was hard pressed to maintain its share in this rapidly expanding HVP market despite the considerable advantage the United States enjoys in producing and processing farm products. The unprecedented gains made by the United States in the growing LVP market over the decade appear to have distracted attention from equally impressive growth in HVP trade and the potential for U.S. export expansion in this other half of the world market.

While roughly equal in size, the HVP and LVP components of the world market are quite different in structure. The products included in the HVP grouping are much more diverse than the LVP products—more diverse both in the number of commodities involved and in the degree of processing they receive before being traded. As a result, the HVP market is made up of a large number of often very specialized submarkets within individual commodity groupings.

The basis for trade and the range of countries involved in HVP and LVP trade also differ markedly. The basis for HVP trade is often not so much an exporter's comparative advantage in producing a product, as is common in LVP trade, but rather the exporter's comparative advantage in processing and marketing the product. Equally important is geographical proximity to markets because of the higher transportation costs and the greater perishability generally involved in HVP trade.

The HVP market is also not dominated by a few suppliers to the same extent as the LVP market where four countries—the United States, Canada, Australia, and Argentina—supply two-thirds of the trade. There are also considerably more large-scale importers in the HVP market than in the LVP market. However, most of the countries involved in the HVP import and export trade tend to be the affluent developed countries or fast growing middle-income countries.

Trade in HVP items is also dominated to a far greater extent by vertically integrated multinational corporations than is the LVP trade. Many HVP's are sold by international corporations that control some aspect of production, processing, and marketing in their country of origin, handling on the world market, and final processing and marketing in the country that ultimately uses the products. Trade in LVP products, on the contrary, tends to be dominated to a greater extent by a few large firms or government trading programs that specialize in international marketing and depend on other corporations, farmer cooperatives, and even individual farmers and

businesses for the production and marketing of their products in both the countries of origin and final use.

The role of the farm and nonfarm sectors in HVP and LVP trade also differ markedly. In the LVP trade, 60-70 percent of the return on exports often accrues to the farmer while returns to processors and marketing interests elsewhere in the economy can be as little as 30-40 percent. In HVP trade, however, manufacturing and processing interests outside the farm sector often command 70-80 percent of the return on exports as value added while the return to the farm sector can be as low as 20-30 percent. To fully appreciate the implications of these differing returns, it should be kept in mind that export unit values in the LVP trade can be as low as \$200-\$300 per ton compared with \$1,000-\$1,500 per tonne for HVP products.

The sources of growth in the two markets differ as well. In the most general terms, price gains have been greater relative to volume gains in the HVP market than in the LVP market. On the average, HVP export prices rose by 10-14 percent per year over the 1970's while volume increased only 3-7 percent. LVP trade gains, on the other hand, have been due almost equally to volume and unit price gains of 7-8 percent each. Growth in the HVP market has also been more regular over time than growth in the increasingly unstable LVP market. In short, HVP exporters have been able to capture a larger share of the value of world agricultural trade while supplying a shrinking share of the volume of world agricultural trade. And LVP exporters, while supplying a larger share of the volume of world agricultural trade, face stagnation and, in some cases, erosion in their share of the value of world agricultural trade as well as increased instability in their exports from one year to the next.

From a U.S. perspective, much of the growth in the HVP market has gone to other suppliers—the reverse of the LVP situation where the United States expanded its share of the market at other exporters' expense. This performance relates not so much to limits on U.S. capacity to produce and market high-quality, competitively priced HVP's for export—except in a few cases such as tropical products—but to more aggressive marketing and promotion and subsidy programs by competing HVP exporters, particularly the EC.

The key characteristics of the HVP market are presented in greater detail in the following sections on product composition and trading country patterns.

## Product Composition

The commodity composition of the HVP market reflects several basic factors, the two most important being:

- Most countries' commitment—often based on a broader concern with economic growth, employment, or trade balances—to capture as much of the value added in the food-processing sector as possible; and
- The capital-intensive, specialized nature of the processing industry that limits the range of HVP products that a small or medium-sized country can economically produce for its own market.

As a result of these two factors, importing countries tend to make their HVP purchases as far down the processing line as their domestic processing capacity allows. This tendency underlies the strong growth in imports of semi-processed products over the 1970's by the more developed countries with local finishing capacity—i.e., imported oilseed meal inputs for use in local poultry production. Imports of finished products also expanded significantly in the developed and middle-income countries where demand for consumer-ready products grew faster than local processing capacity or where the capacity needed for a particular product was too specialized or too costly to warrant development.

A third factor was also at play. Increasing affluence around the world generated strong demand for specialty, often unprocessed products—such as fruits, vegetables, and tropical products—that could not be produced locally or were produced only on a seasonal basis. A third market in high-value, consumer-ready but unprocessed products evolved to meet this demand.

These demand factors shaped the product composition and growth patterns of HVP trade. Of the \$120 billion in HVP products traded in 1980, about half was made up of semiprocessed products—especially meats, meals and oils, coffee and cocoa products, and refined sugar (tables 2-4). Highly processed, consumer-ready products—such as dairy products, beverages, and cereal preparations—accounted for a third of total HVP trade. The remaining sixth was made up of high-value unprocessed but consumer-ready products—mostly fresh fruits and vegetables. Among the major individual HVP items, the fastest growth rates—17 percent or more per year—were reported in meats (fresh, chilled, and frozen), milk and cream,

butter, cheese, cereal products, fruit juices, refined sugar and sugar preparations, cocoa products, chocolate and products, vegetable oils and meal, lard, wine and beer, and cigarettes.

### The Service Component in HVP Exports

The overriding importance of the service component, or the value added in processing, in shaping the HVP trade is reflected in the pattern of price and volume increases

**Table 2—World HVP trade by volume**

Selected products by SITC code	Volume traded	
	1970	1980
Million tonnes		
011 Meats (fresh, chilled, frozen)	4.57	8.14
012 Meats (dried, salted, smoked)	.45	.37
014 Meats (canned)	.81	2.92
022 Milk and cream	na	na
023 Butter	.91	1.39
024 Cheese	.79	1.41
025 Eggs	.48	.84
411.3 Animal oils and fats	1.80	2.56
081.4 Meat and fishmeal	.38	.65
Selected livestock products	10.19	18.28
046 Wheat flour	5.00	6.68
048 Cereal preparations *	.74	1.70
081.2 Bran, pollard, sharps, etc.	3.16	3.56
Selected cereal products	8.90	11.94
051 Fruits and nuts (fresh) <sup>1</sup>	15.88	21.03
053.9 Fruit (canned) *	1.13	2.40
053.5 Fruit juices *	.83	1.56
054 Vegetables (fresh, simply preserved) <sup>2</sup>	8.20	10.98
055 Vegetables (preserved and prepared) *	1.13	1.46
Selected fruits and vegetables	27.17	37.43
0612 Refined sugar	21.40	27.35
062 Sugar preparations *	.12	.24
071.1 Coffee (green, roasted)	3.27	3.74
072.1 Cocoa beans (raw, roasted)	1.13	1.04
072.2-3 Cocoa prods.(powder, cake, paste)	.28	.51
073 Chocolate and products	na	.58
074 Tea and mate	.75	.95
075 Selected spices	.18	.16
Selected tropical products	27.13	34.57
423-4 Vegetable oils	5.11	12.11
081.3 Oilseed cake and meal	11.00	25.70
Selected oilseed products	16.11	37.81
091.3-4 Lard, fat, and margarine	.63	.97
112.1-3 Wine and beer	4.87	7.08
122.2 Cigarettes *	.03	.11
Selected miscellaneous products	5.53	8.16

na = not available.

\* = Data from United Nations.

<sup>1</sup>Selected with 057 included. <sup>2</sup> Selected.

Source: Food and Agricultural Organization, except for asterisked products as noted above where data are from the United Nations *Trade Statistics*. Totals are based on aggregations for the major reporting countries.

reported over the 1970's. The difference between volume and value gains as a source of growth in trade value was often as pronounced across products within the HVP group as between the broader HVP and LVP categories. And in virtually all cases, the service component was the key determinant.

**Table 3—World HVP trade by value**

Product and SITC code	Value of trade	
	1970	1980
Billion dollars		
011 Meats (fresh, chilled, frozen)	3.55	17.31
012 Meats (dried, salted, smoked)	.39	1.04
014 Meats (canned)	.91	2.78
022 Milk and cream	.79	4.92
023 Butter	.66	3.41
024 Cheese	.74	4.10
025 Eggs	.26	1.15
411.3 Animal oils and fats	.34	1.29
081.4 Meat and fishmeal	.04	.19
Selected livestock products	7.68	36.19
046 Wheat flour	.44	1.89
048 Cereal preparations *	.19	1.17
081.2 Bran, pollard, sharps, etc.	.15	.46
Selected cereal products	.78	3.52
051 Fruits and nuts (fresh) <sup>1</sup>	2.10	8.03
053.9 Fruit (canned)*	.37	1.25
053.5 Fruit juices*	.19	1.30
054 Vegetables(fresh, simply preserved) <sup>2</sup>	1.08	3.81
055 Vegetables (preserved and prepared)*	.45	1.73
Selected fruits and vegetables	4.19	16.12
0612 Refined sugar	1.97	14.37
062 Sugar preparations *	.08	.39
071.1 Coffee (green, roasted)	3.08	12.59
072.1 Cocoa beans (raw, roasted)	.86	3.00
072.2-3 Cocoa prods.(powder, cake, paste)	.28	1.98
073 Chocolate and products	.25	1.75
074 Tea and mate	.70	1.90
075 Selected spices	.11	.32
Selected tropical products	7.33	36.30
423-4 Vegetable oils	1.50	7.99
081.3 Oilseed cake and meal	.92	5.44
Selected oilseed products	2.42	13.43
091.3-4 Lard, fat, and margarine	.19	.74
112.1-3 Wine and beer	1.19	5.73
122.2 Cigarettes *	.14	1.09
Selected miscellaneous products	1.52	7.56
Total <sup>3</sup>	23.92	113.12

\* = Data from United Nations.

<sup>1</sup>Selected, with 057 included.

<sup>2</sup> Selected.

<sup>3</sup> World total includes several added items that raise the 1980 level to \$120 billion.

Source: Food and Agricultural Organization, except for asterisked products as noted above where data are from the United Nations *Trade Statistics*. Totals are based on aggregations for the major reporting countries.

The fastest unit price and trade value gains were posted in highly processed items—butter, cheese, refined sugar, cocoa products, spices, and fruit and vegetable juices. Price increases in these generally consumer-ready products averaged 13-15 percent per year over the 1970's—more than three times their average volume increases of 0-4 percent per year. More balanced volume and price growth was reported in vegetable oils and oilseed meals—generally intermediate products with a smaller value added component and generally requiring more processing before final use. Price increases in these products averaged 9 percent per year, close to their 7-9 percent annual increases in trade volume.

This pattern also held for the items that grew less than the HVP average of 17 percent per year. Among the

slower growth HVP items, price gains in consumer-ready products—such as dried, salted, and smoked meats; fresh and prepared fruits and vegetables; and tea and mate—averaged 10-11 percent per year while volume gains averaged 0-2 percent per year. The services involved in processing and trading these products, including transporting often highly perishable products, worked to keep prices rising at a substantial rate—often two to four times faster than trade volume. Even among the slower growing, generally semiprocessed products, however, the 8- to 9-percent average increases in prices enjoyed over the 1970's were greater than their volume gains.

For many LVP items, such as grains and oilseeds with little or no value added, gains in volume equaled and occasionally surpassed gains in unit values. For purposes of comparison, unit prices for LVP products increased by 7-8 percent per year on average while volume gains averaged 7-9 percent. This pattern matched general price developments in the agricultural and food sectors. Prices of raw farm products, whether traded or produced locally, tended to increase slowly in nominal terms and decline in real terms over the 1970's while the cost of the service involved in their processing into finished products went up in real terms.

### Country Trading Patterns

HVP trade involves an unusually large number of countries—many of which are both large-scale importers and exporters and reverse trade roles over time. LVP trade, on the other hand, involves relatively few large exporters and importers that seldom shift from exporting to importing or from importing to exporting. The large number of countries involved in HVP trade reflects not only the broader range of products involved but also the many different uses traders make of the world market. Countries rely on the HVP market to realize several goals. Exporters use the market:

- To expand the income and employment payoff associated with producing bulk farm products by marketing them as semiprocessed products for use abroad in producing a highly processed product. For example, Brazil can double the income and employment gains it enjoys from its soy export trade by exporting soybean meal instead of soybeans as feed for Western Europe.
- To market the product of otherwise unused or underutilized processing capacity. This helps the processing sector realize economies of scale and capture the value added in highly capital- and labor-intensive food processing. The EC's initial

Table 4—Compound annual growth rates for trade in HVP products

Selected products and SITC code	Compound annual growth rates, 1970-1980			
	Volume	Unit price	Value	
		Percent		
011	Meats (fresh, chilled, frozen)	5.9	10.6	17.1
012	Meats (dried, salted, smoked)	-1.9	12.5	10.4
014	Meats (canned)	13.7	-1.5	11.8
022	Milk and cream	na	na	20.1
023	Butter	4.3	13.0	17.9
024	Cheese	6.0	12.0	18.7
025	Eggs	5.8	9.7	16.1
411.3	Animal oils and fats	3.6	10.3	14.3
081.4	Meat and fishmeal	5.5	10.8	16.9
046	Wheat flour	2.8	12.4	15.7
048	Cereal preparations *	8.7	10.4	19.9
081.2	Bran, pollard, sharps, etc.	1.1	10.6	11.9
051	Fruits and nuts (fresh)	2.8	11.2	14.3
053.9	Fruit (canned)	7.8	4.7	12.9
053.5	Fruit juices	6.5	13.8	21.2
054	Vegetables (fresh, simply preserved)	3.0	10.2	13.5
055	Vegetables (preserved and prepared)	2.6	11.6	14.4
612	Refined sugar	2.5	19.0	22.0
062	Sugar preparations	7.2	9.3	17.2
071.1	Coffee (green, roasted)	1.3	13.6	15.1
072.1	Cocoa beans (raw, roasted)	-.8	14.2	13.3
072.2-3	Cocoa prods (powder, cake, paste)	6.2	14.5	21.6
073	Chocolate and products	na	na	21.5
074	Tea and mate	2.4	7.9	10.5
075	Selected spices	-1.2	12.6	11.3
423-4	Vegetable oils	9.0	8.4	18.2
081.3	Oilseed cake and meal	8.9	9.7	19.4
091.3-.4	Lard, fat, and margarine	4.4	9.7	18.2
112.1-3	Wine and beer	3.8	12.7	17.0
122.2	Cigarettes	13.9	7.8	22.8

na = not available

\* = Data from United Nations.

experience with poultry exports was a good example of this use of the market.

- To capitalize on a comparative advantage in producing a specialty crop—often a tropical product or a product of a seasonal nature shipped with little or no processing. The export of fresh fruits and vegetables to the northern European market by the Mediterranean countries is an example of this use of the market.

The HVP market provides importers with:

- A means of supplementing domestic production of finished products otherwise limited by inadequate (or nonexistent) processing capacity. Middle Eastern imports of food preparations, including meats and cereal products, are good examples of this aspect of the market.
- A means of supplementing diets with products—generally high-value unprocessed fresh fruits and vegetables or tropical products—not produced indigenously or produced on a seasonal basis only. U.S. imports of high-value Mexican fruits and vegetables during the winter months and Brazilian cocoa products are based on this rationale.
- A means of supplying domestic processing plants with the semiprocessed inputs needed to capture the maximum value added in final finishing. Japan's imports of protein feeds for use in hog and broiler operations are based on this use of the market.

The following catalog of countries dominating the HVP export and import sectors emphasizes these key market characteristics.

## Exporters

The exporters' trade in HVP's has generally been shaped by surplus processing capacity and the drive to realize economies of scale or a comparative advantage in producing a bulk product for minimum processing and export. These factors tend to explain the dominance of the EC on the one hand in the highly processed HVP trade and the United States and Brazil on the other hand in the semiprocessed HVP trade (table 5).

The *European Community* has been and will probably continue to be the world's largest and fastest growing exporter of HVP products; shipments in 1980 exceeded \$53 billion. While two-thirds of the EC's HVP trade moved to countries within the Community, the EC's HVP trade with the rest of the world has grown faster than

intra-EC trade and promises to match the intra-EC market in importance in the late 1980's or 1990's. This rapid expansion in EC HVP exports both to countries within the Community and to third countries has increased the EC's share of the world market sharply. The EC supplied almost 45 percent of world exports in 1980, compared with 33 percent in 1970. Equally impressive has been the EC's concentration of its HVP shipments in the highest-valued products and the impact of this concentration on the EC's volume and value shares of the market (table 6). The EC's share of the world HVP market by volume in 1980 was only 26 percent despite its almost 45-percent share of trade value. While the EC expanded the volume of HVP products it exported by less than 8 percent per year, the prices of the products it exported rose by more than 12 percent as the labor and capital costs of processing kept pace with or surpassed the 1970's general inflation rate of 9-10 percent.

The EC continues, despite this growth in exports, to be the world's largest HVP importer (table 7). But the Community's growth in exports has allowed it to narrow its HVP trade deficit so that HVP imports were less than 115 percent of HVP exports in 1980, compared with over 150 percent in 1970.

HVP exports from the *United States*, the world's second largest exporter, increased somewhat below 17 percent per year compared with the EC's gains of 20-21 percent. This pace allowed the United States to maintain its 9- to 10-percent share of the world market. Contrary to the EC's gains where unit prices tended to dominate, however, U.S. gains in HVP trade were due as much to gains in volume as to gains in unit prices.

Growth in U.S. HVP exports during the 1970's was strongest in oilseed meal and fresh fruits—all at the low-valued end of the HVP spectrum made up of semiprocessed or unprocessed items such as fruits and vegetables, both of which capitalize on the U.S. comparative advantage in producing high-quality, low-cost inputs. The EC's processed product exports, on the other hand, included a far larger proportion of highly processed goods—almost two-thirds compared with one-third for the United States.

The third consistently large exporter of HVP products has been *Brazil*. Government processing and marketing subsidies for selected export industries—such as vegetable oil, oilseed meal, and poultry—and the country's natural advantage in coffee and cocoa production kept HVP shipments expanding at almost 18 percent per year.

The other major exporters account for appreciably smaller shares of the HVP market and tend to concentrate their trade in a relatively few products in which they have a distinct comparative production advantage. Among these other major exporters are *Australia* and *New Zealand* (specializing in livestock products), *Spain* (specializing in citrus fruits), *Mexico* (specializing in fresh vegetables), *Argentina* (specializing in meats and oilseed products), *Canada* (specializing in meats), and *Greece* (specializing in fruits and vegetables).

### Importers

The rationale for importing HVP's noted above is also reflected in the number and type of countries involved in the import market. Trade policies are used effectively in most cases to guide HVP imports into products not available locally or items used as inputs. The *EC* and the *United States* dominate the HVP import market. Their imports, led by tropical products and seasonal items that

cannot be produced locally, accounted for almost three-fifths of all HVP products traded in 1980. For both the *EC* and the *United States*, most HVP imports are semiprocessed products; trade barriers protecting highly developed food-processing industries limited imports of many finished products.

Due to relatively slow growth in their HVP imports over the 1970's, both the *EC* and the *United States* declined in importance as import markets. The *EC*'s increased emphasis on intra-Community HVP trade in the 1970's also worked to change its dependence on imports supplied by third countries. *EC* HVP imports from countries outside the Community dropped from nearly a third of the *EC* import total in 1970 to less than a quarter in 1980.

Although Japan's 1970 HVP import base was relatively small, its HVP imports grew by 20 percent per year, fueled by gains in meat, coffee, and fresh fruit. The *Other Western European* countries (Sweden, Switzerland, and

Table 5—HVP export volume and value, 1970 and 1980

Country or region	1970		1980 <sup>3</sup>		Growth rate, 1970-80 <sup>4</sup>	
	Volume <sup>1</sup>	Value <sup>2</sup>	Volume <sup>1</sup>	Value <sup>2</sup>	Volume <sup>1</sup>	Value <sup>2</sup>
EC-9 (total)	1,000 t	Mil \$	1,000 t	Mil \$	-----	-----
EC-9 <sup>5</sup>	22,495	8,649	86,394	53,488	14.4	20.0
United States	8,279	3,140	18,569	19,876	8.4	21.0
Brazil	10,405	2,380	23,081	11,378	8.3	16.9
Spain	2,830	1,342	8,509	5,771	13.0 <sup>6</sup>	17.6
Australia	3,424	714	4,076	3,295	1.8	16.5
New Zealand	1,067	793	1,731	2,777	5.0	13.4
Canada	1,030	677	1,515	2,291	3.9	13.0
Argentina	2,456	640	3,146	1,851	2.5	11.2
India	333	613	507	1,773	5.4 <sup>7</sup>	14.2
Mexico	na	482	na	1,501	na	12.1
Greece	774	250	1,638	1,049	11.3 <sup>8</sup>	22.7
Switzerland	671	160	1,842	1,041	10.6	20.6
Turkey	268	304	207	886	-2.6	11.3
Singapore	676	184	732	856	.9 <sup>6</sup>	18.6
Thailand	697	180	1,105	817	4.7	16.3
Taiwan	1,573	90	6,789	801	20.1 <sup>7</sup>	31.4
Japan	320	224	na	651	na	16.5
Total <sup>9</sup>	33,230 <sup>9</sup>	12,345 <sup>9</sup>	67,100 <sup>9</sup>	57,222 <sup>9</sup>	7.3 <sup>9</sup>	16.5

na = not available.

<sup>1</sup>Volumes vary by commodity, but are converted to metric ton equivalent; for commodities, however, no volume data are available.

<sup>2</sup>Values are those reported by exporters to the UN.

<sup>3</sup>Calendar year 1980 data except for: Brazil (1979), Turkey (1979), Argentina (1978), Thailand (1978), India (1979), Mexico (1977), and Taiwan (1977).

Data include aggregates of the highly-processed, semiprocessed, and high-value unprocessed products listed on page 2.

<sup>4</sup>Annual compound growth rates from 1970 to 1980, except where noted.

<sup>5</sup>Excludes intra-EC trade.

<sup>6</sup>1970-79 growth rates.

<sup>7</sup>1970-78 growth rates.

<sup>8</sup>1970-77 growth rates.

<sup>9</sup>Excludes Thailand for volume because data include cassava, a low-value, unprocessed product.

Source: United Nations *Trade Statistics*.

Austria) expanded their HVP purchases at rates similar to the EC and United States, with coffee and cocoa showing the largest gains. Japan's import market share increased slightly over the decade (from 3 to 4 percent), while the shares of most other Western European countries declined slightly.

The HVP imports of the 15-20 developing countries that enjoyed strong economic growth due to oil revenues or successful development planning increased appreciably faster than growth in the developed countries. The lack of any significant processing capacity in many of these countries served to translate demand for upgraded, more diversified diets directly into HVP import demand.

Growth was most pronounced in the OPEC countries, where HVP imports rose by 30 percent per year; as a result, OPEC's import market share rose from slightly more than 3 percent in 1970 to nearly 8 percent in 1980. Middle Eastern OPEC countries reported the largest import gains due to their combination of rapidly rising oil revenues, accelerating urbanization, government import

subsidies on many processed products, and the influx of foreign workers.

OPEC HVP import demand remained fairly evenly divided between semiprocessed and highly processed goods, with meats and vegetable oil dominating in the former group and dairy products and beverages in the latter group. Limited processing capacity and government import subsidies in many Middle Eastern countries helped raise the proportion of finished food products imported well above the levels common for most other HVP importers. Egypt and Mexico also used rising oil revenues to expand HVP imports to upgrade and diversify diets.

The developing countries' large-scale imports of the most highly processed products made them particularly attractive markets for the highest payoff HVP's (table 8). For example, the OPEC countries imported \$4.1 billion worth of highly processed HVP's in 1980, nearly equal to the EC's \$4.7 billion, despite the fact that the value of the EC's total HVP imports was triple that of OPEC's. In addi-

Table 6—Product composition of HVP exports, 1970 and 1980<sup>1</sup>

Item	1970			Total HVP	1980			Total HVP
	High-value unprocessed	Semi- processed	Highly processed		High-value unprocessed	Semi- processed	Highly processed	
<i>Billion dollars<sup>2</sup></i>								
EC-9 <sup>3</sup>	0.3 (11)	0.8 (25)	2.0 (64)	3.1 (100)	1.3 (6)	7.0 (35)	11.7 (59)	19.9 (100)
United States	.4 (16)	1.2 (51)	.8 (33)	2.4 (100)	2.2 (19)	6.1 (54)	3.1 (27)	11.4 (100)
Brazil	-- (2)	1.3 (95)	-- (3)	1.3 (100)	.1 (2)	5.2 (90)	.4 (8)	5.8 <sup>4</sup> (100)
Spain	.3 (45)	.2 (24)	.2 (31)	.7 (100)	1.6 (49)	.6 (19)	1.1 (32)	3.3 (100)
Australia	.1 (6)	.5 (65)	.2 (28)	.8 (100)	.1 (4)	2.0 (72)	.7 (24)	2.8 (100)
New Zealand	-- (3)	.4 (65)	.2 (32)	.7 (100)	.1 (5)	1.4 (60)	.8 (35)	2.3 (100)
Canada	.1 (9)	.3 (42)	.3 (49)	.6 (100)	.2 (12)	.9 (49)	.7 (39)	1.9 (100)
Argentina	.1 (10)	.5 (85)	-- (4)	.6 (100)	.3 (18)	1.3 (70)	.2 (12)	1.8 <sup>5</sup> (100)
Mexico	.1 (33)	.1 (51)	-- (16)	.3 (100)	.3 (33)	.3 (53)	.6 (14)	.1 (100)
Greece	.1 (32)	-- (4)	.1 (64)	.2 (100)	.3 (29)	.2 (17)	.6 (54)	1.0 (100)
Spain	-- (7)	.2 (71)	.1 (22)	.4 (100)	.1 (10)	.9 (61)	.4 (29)	1.5 (100)
Total <sup>6</sup>	1.5 (14)	5.3 (50)	3.8 (36)	10.7 (100)	6.5 (13)	25.3 (49)	19.4 (38)	51.2 (100)

-- = Less than \$50 million.

<sup>1</sup>For products, see box on page 2.

<sup>2</sup>Numbers in parentheses are percentages.

<sup>3</sup>Excludes intra-EC trade.

<sup>4</sup>Data for 1979.

<sup>5</sup>Data for 1978.

<sup>6</sup>Totals may not add due to rounding.

Source: United Nations *Trade Statistics*.

## Structure of the HVP Market

tion, Hong Kong, Singapore, the Caribbean, and the USSR all imported more than \$500 million in highly processed HVP's in 1980, nearly as much as Switzerland and Sweden, and more than Spain and Austria.

Imports of HVP's by the centrally planned countries grew more slowly than imports by the developing countries, but faster than imports by the developed countries. The USSR and many Eastern European countries imported a growing volume of HVP goods—especially meats, oilseed

products, and dairy products—to improve diets or to offset shortfalls in domestic production. Although Eastern European HVP imports grew by only 15 percent annually overall, several countries actively pursued policies to upgrade diets. Poland's imports of HVP goods, for example, grew by 21 percent per year. The USSR, attempting to upgrade and diversify diets while contending with serious drops in domestic production, sharply increased its HVP imports by an average of 26 percent per year.

**Table 7—HVP import volumes and values, 1970 and 1980**

Country or region	1970		1980		Annual compound growth rate, 1970-80	
	Volume <sup>1</sup>	Value <sup>2</sup>	Volume <sup>1</sup>	Value <sup>2</sup>	Volume <sup>1</sup>	Value
EC (total)	42,725	13,267	69,647	60,415	5.0	16.4
EC <sup>3</sup>	28,421	7,665	40,089	27,135	3.7	13.5
U.S.	6,162	4,538	11,242	15,480	6.2	13.0
OPEC <sup>4,5</sup>	1,566	685	8,448	9,322	18.4	29.8
Eastern Europe <sup>4,6</sup>	na	1,557	na	6,049	na	14.5
Japan	3,046	882	5,478	5,597	6.0	20.3
Canada	2,242	829	1,088	2,874	-7.0	13.2
Saudi Arabia	311 <sup>7</sup>	111 <sup>7</sup>	2,662	2,744	23.8	33.9
USSR <sup>4</sup>	na	228	na	2,252	na	25.7
Switzerland	1,507	590	1,496	2,175	-0.1	13.9
Sweden	1,346	599	1,612	1,873	1.8	12.1
Hong Kong	794	334	1,888	1,676	9.0	17.5
Poland <sup>4</sup>	na	238	na	1,639	na	21.3
Spain	974	352	975	1,479	0	15.4
Austria	878	261	1,500	1,308	5.5	17.5
East Germany <sup>4</sup>	na	479	na	1,226	na	9.9
Iran <sup>4</sup>	na	97	na	1,170	na	28.3
Nigeria <sup>4</sup>	na	58	na	1,134	na	34.6
Egypt <sup>4</sup>	na	84	952	1,093	na	29.3
Singapore <sup>4</sup>	2,340	249	1,190	1,021	-2.3	15.2
Caribbean <sup>4</sup>	na	296	na	1,003	na	13.0
Yugoslavia <sup>4</sup>	na	154	na	1,001	na	20.6
Brazil	436	135	995 <sup>8</sup>	928 <sup>8</sup>	8.6	21.2
Mexico <sup>4</sup>	222	74	1,213	891	18.5	28.3
Algeria <sup>4</sup>	na	65	1,363	872	na	29.6
Venezuela <sup>4</sup>	215	94	1,011	811	16.7	24.0
India <sup>4</sup>	414	142	1,114	770	10.4	18.4
Iraq <sup>4</sup>	na	22	278	671	na	40.7
Trinidad & Tobago <sup>5</sup>	99	31	189	155	6.7	17.5
Dom. Republic <sup>7</sup>	64	29	203	133	12.2	16.5

na = Not available.

<sup>1</sup>Units vary by commodity, but are converted to metric ton equivalent. <sup>2</sup>Values are those reported by importers to the United Nations except for countries noted. Commodities are those listed in box on page 2. <sup>3</sup>Excludes intra-EC trade. <sup>4</sup>Reflects aggregation of major exporters' shipments to a given nation, not a nation's official import data. This approach was taken because of the limited availability of complete 1980 import data from many countries. <sup>5</sup>Excludes Ecuador and Gabon. <sup>6</sup>Excludes Albania. <sup>7</sup>1969 data; 1969-80 growth rate. <sup>8</sup>1979 data; 1970-79 growth rates.

**Table 8—Product composition of HVP imports, 1970 and 1980<sup>1</sup>**

Country or region	1970				1980			
	High-value unprocessed	Semi-processed	Highly processed	Total <sup>2</sup> HVP	High-value unprocessed	Semi-processed	Highly processed	Total <sup>2</sup> HVP
<i>Billion dollars<sup>3</sup></i>								
EC <sup>4</sup>	1.8 (23)	4.3 (56)	1.6 (21)	7.7 (100)	7.0 (25)	15.4 (57)	4.7 (18)	27.1 (100)
United States	.5 (11)	2.8 (62)	1.2 (27)	4.5 (100)	1.5 (10)	9.5 (61)	4.5 (29)	15.5 (100)
OPEC	.1 (14)	.3 (42)	.2 (44)	.7 (100)	1.0 (11)	4.2 (45)	4.1 (44)	9.3 (100)
Eastern Europe	.2 (14)	1.3 (81)	.1 (5)	1.6 (100)	.8 (14)	4.8 (80)	.4 (6)	6.0 (100)
USSR	.1 (14)	.2 (24)	.6 (62)	1.0 (100)	.5 (9)	2.9 (48)	2.6 (43)	6.0 (100)
Japan	.3 (30)	.4 (48)	.2 (22)	.9 (100)	1.0 (19)	3.0 (53)	1.6 (28)	5.6 (100)
Canada	.3 (33)	.3 (35)	.3 (32)	.8 (100)	.9 (32)	.9 (33)	1.0 (35)	2.9 (100)
Switzerland	.2 (26)	.2 (40)	.2 (34)	.6 (100)	.6 (27)	.8 (35)	.8 (38)	2.2 (100)
Sweden	.1 (24)	.3 (45)	.2 (31)	.6 (100)	.4 (23)	.8 (43)	.7 (34)	1.9 (100)
Hong Kong	.1 (31)	.1 (28)	.1 (41)	.3 (100)	.4 (27)	.5 (27)	.8 (46)	1.7 (100)
Spain	-- (7)	.2 (71)	.1 (22)	.4 (100)	.1 (10)	.9 (61)	.4 (29)	1.5 (100)
Austria	.1 (32)	.1 (45)	.1 (23)	.3 (100)	.4 (29)	.5 (42)	.4 (29)	1.3 (100)
Egypt	-- (8)	.1 (80)	-- (12)	.1 (100)	-- (5)	.8 (74)	.2 (21)	1.1 (100)
Singapore	-- (17)	.1 (60)	.1 (23)	.2 (100)	.2 (19)	.3 (30)	.5 (51)	1.0 (100)
Caribbean	-- (9)	.1 (36)	.2 (55)	.3 (100)	.1 (9)	.4 (40)	.5 (51)	1.0 (100)
Total above <sup>2</sup>	3.9 (20)	10.9 (54)	5.2 (26)	20.1 (100)	15.0 (18)	45.7 (54)	23.3 (28)	84.1 (100)

-- = negligible; less than \$50 million.

<sup>1</sup>Data reflect what importers report to the United Nations, except for OPEC, Eastern Europe, USSR, Egypt, and the Caribbean which are derived from major exports' shipments to these countries. <sup>2</sup>Totals may not add due to rounding. Percentages are based on unrounded data. <sup>3</sup>Numbers in parentheses are percentages. <sup>4</sup>Excludes intra-EC trade.

Source: United Nations *Trade Statistics*.

**Table 9—Market shares by value of selected HVP traders, 1970 and 1980<sup>1</sup>**

HVP traders	Market share		HVP traders	Market share	
	1970	1980		1970	1980
<i>Percent</i>					
Exporters:			Importers: (cont)		
EC <sup>2</sup>	33.3	44.6	United States	17.5	72.9
EC <sup>3</sup>	12.1	16.6	Eastern Europe	6.0	5.0
United States	9.3	9.5	Japan	3.4	4.7
Brazil	5.2	4.8	Canada	3.2	2.4
Australia	3.1	2.3	OPEC	2.7	7.8
Spain	2.8	2.7	Sweden	2.3	1.6
New Zealand	2.6	1.9	Switzerland	2.3	1.8
Canada	2.5	1.5	Spain	1.4	1.2
Argentina	2.3	1.5	Hong Kong	1.3	1.4
India	1.9	1.3	Caribbean	1.1	.9
Switzerland	1.1	--	Austria	1.0	1.1
Mexico	.9	.9	Singapore	.9	.9
Greece	--	.9	Poland	1.0	1.4
Importers:			USSR	1.2	1.8
EC <sup>2</sup>	51.2	50.3	Saudi Arabia	--	2.3
EC <sup>3</sup>	29.5	22.6	Nigeria	--	.9
			Egypt	--	.9

-- = negligible.

<sup>1</sup>Units vary by commodity, but are converted to metric ton equivalent; some commodities lack unit data, however. <sup>2</sup>Includes intra-EC trade.

<sup>3</sup>Excludes intra-EC trade.

Source: United Nations *Trade Statistics*.

## HVP IMPORTS AND IMPORTERS

With many of the basic diet upgrading and diversification pressures that shaped HVP import demand in the 1970's likely to continue over the 1980's after a temporary respite at the start of the decade, growth in world HVP trade could average as much as 9-12 percent per year (up to \$25 billion per year) through 1990. Assuming an annual average inflation rate of 5-7 percent for the decade, this would translate to real growth of 4-6 percent per year compared with 6-9 percent over the 1970's. While increases in HVP trade

so far in the 1980's have lagged well below the pace of the late 1970's, continued growth in HVP shipments in the face of the extremely bearish economic developments experienced since 1981 testifies to the underlying strength of HVP demand. With economic recovery well underway by mid-decade, growth in HVP demand and trade should pick up enough to support the decade average forecast here.

The largest value increases in trade can

be expected in items such as fresh and dried fruits and vegetables, vegetable oils, roasted coffee, and selected meats. The largest percentage increases can be expected in items such as poultry, cigarettes, pork, and cheese. Even for these high-growth categories, however, the major HVP exporters should have more than ample supplies available for sale abroad. As a result, even with continued import demand growth in the 1980's, competition among exporters is likely to remain keen.

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World imports of high-value agricultural products grew by \$7-\$10 billion (17 percent) per year over the 1970's to match and eventually surpass imports of the lower value products that traditionally dominated agricultural trade. Underlying this spectacular growth were a number of affluence-related demand factors that sparked an unprecedented effort to upgrade and diversify diets even at the expense of large-scale imports of products previously considered prohibitively expensive.

The linkage between affluence, upgrading and diversifying diets, and importing HVP's is readily apparent in the mix of countries that buy high-value products on the world market regularly. The developed countries with per capita incomes in excess of \$5,000 per year account for the bulk of the world's HVP imports. In 1980, the European Community, the United States, Japan, and Canada accounted for two-thirds of world HVP imports.<sup>2</sup> Moreover, these 12 countries all more than tripled their HVP purchases over the last 10 years, and only in Japan do HVP imports make up less than half of the agricultural import totals.

<sup>2</sup>The European Community is treated as a single unit here because the Common Agricultural Policy assures uniformity in import regulations while the countries' high incomes and common tastes tend to make demand patterns similar. The world totals cited here, however, do include intra-EC trade.

Spectacular as their growth in HVP import demand has been, however, the developed countries are gradually losing their position of dominance in the HVP market to the most affluent developing countries. While developed countries accounted for over 77 percent of the world's HVP imports in 1970, by 1980 they accounted for less than 67 percent. This slippage in import market share was due not to any slowdown in growth in developed country purchases, but to an explosion in HVP imports by the affluent developing countries. The OPEC countries, for example, increased their share of world HVP imports from 3 percent in 1970 to over 11 percent in 1980. The United Arab Emirates, for example, imported nearly 60 times more HVP's in 1980 than in 1970, while Saudi Arabia's HVP imports rose by 2,600 percent over the same period.

OPEC countries are not the only developing countries whose imports of high-value agricultural products have grown rapidly. Hong Kong, Singapore, Korea, and Taiwan also increased their imports dramatically, as did Egypt, Mexico, Spain, and Greece. Both groups increased their share of world imports sharply, particularly over the last half of the 1970's, and demonstrate considerable potential for continued rapid growth in the 1980's. Several of the more affluent centrally planned countries also experienced rapid growth in HVP imports. In all these countries, it was the affluence-related drive to improve diets that fostered demand for HVP's and in turn HVP imports.

Equally important, the growth slowdown experienced in many of these major import markets has continued with little or no interruption in 1981, 1982, and so far in 1983 despite general economic recession.

The sections that follow evaluate the factors underlying this pattern of growth in HVP import demand and speculate on growth in the 1980's. The materials conclude that, while the outlook for HVP trade in the coming decade is uncertain, economic growth in the increasingly affluent developing countries and the lower income developed countries is likely to be strong enough to expand import demand by \$17-\$25 billion per year on average during the 1980's compared with \$15 billion per year toward the end of the 1970's. However, market saturation in the richest developed countries, combined with greater emphasis on local processing capacity in the middle-income countries, should slow the pace of growth somewhat over the decade ahead compared with the 1970's.

### Why Import HVP's?

While the volumes involved vary widely, virtually every country in the world imports some high-value agricultural products. In the most general terms, HVP imports are made to meet domestic demand for products that cannot be supplied locally. This shortfall rationale for trading ultimately underlies virtually all the purchases made on the world market. This shortfall between domestic production and demand can be caused by poor harvests, faster growth in demand than in supply, or the inability to produce or process a given product. Over the long run, shortfalls can also occur because of the economic competitiveness of foreign suppliers.

A number of added, uniquely HVP demand factors were also at work in addition to these general rationales over the 1970's to expand imports at a particularly rapid pace and should continue to encourage trade in the 1980's. Demand for HVP's is shaped to a large degree by the desire to:

- upgrade diets,
- diversify diets;
- provide the semiprocessed inputs needed to operate final processing industries; and
- ease food preparation time and labor in the home.

These factors in combination tend to make HVP demand extremely income elastic; elasticities of demand for HVP's worldwide appear to be in the range of +0.5 to +2, compared with a range of -0.1 to +0.5 for the lower value, generally bulk products.<sup>3</sup> Given the often limited capacity of the affluent countries—particularly the newly

affluent—to meet the HVP demand generated by rising per capita incomes, import demand has often grown as fast or faster, albeit from a smaller base, than domestic demand.

The most pervasive of the HVP demand factors at play over the last decade has been the commitment of governments to and the demand of consumers for upgraded diets, even at the cost of large-scale importing. This upgrading has generally taken the form of adding more poultry, pork, mutton, beef, higher grade flour, vegetable oils, vegetables, and dairy products to the diet. Added consumption of these commodities makes for a more balanced diet with enhanced consumer appeal.

The impact of this upgrading on HVP demand is immediate and direct. Increased demand for meat generally generates either increased demand for *semiprocessed* HVP's to be used as inputs by local livestock producers (e.g., oilmeals), *intermediate* products destined for further finishing before final marketing (e.g., lower grade cuts of beef), or *highly processed* consumer-ready products (e.g., canned hams). Diets in the developed countries are already upgraded, but are just beginning to be upgraded in many middle-income developed and developing countries.

Another critical factor increasing demand for high-value products is the desire to diversify upgraded diets—to eat a *broader* range of foods, often new or initially exotic foods. While diet upgrading often increases demand for established products—for example, mutton in the Middle East—diet diversification works to expand demand for a greater variety of products, many of which may not be produced locally or are available in season only.

The investment involved in developing the capacity to process new products is often quite large, and many processing plants can operate economically only if they deal in large volumes. As a result, diet diversification often accelerates growth in HVP imports to a greater extent than diet upgrading. Often the commodities

<sup>3</sup>The income elasticities of demand quoted in this chapter were collected from a number of different sources including *Alternative Futures For World Food in 1985* (FAER-146, FAER-149, and FAER-151, 1979); *Agricultural-Food Policy Review* (AFPR-4, 1981); *Global Prospects Methodology* (unpublished manuscript 1981); and *Supply and Demand Elasticities For Farm Products in the Member Countries of the EC* (unnumbered staff report, January 1980); all were published or prepared in the U.S. Department of Agriculture's Economic Research Service. In addition, *Income Elasticities of Demand for Agricultural Products* (Food and Agriculture Organization of the United Nations, 1972), and other country-specific sources were used.

demanded to diversify diets come to be considered necessities as incomes grow and local processing capacity or import channels are established. This has already happened in many of the developed countries and is becoming true in the more affluent developing countries and among the affluent classes in the low-income countries as well.

Consumer perception of quality also plays a role in converting pressure to upgrade and diversify diets into HVP import demand. This is particularly true in the developed countries where advertisement can create greater awareness of quality differentials and in the more affluent developing countries when imported products often carry an added status appeal that distinguishes them from local products. Tourism in a number of developing countries also works to maximize HVP import demand, first by establishing trade patterns to meet tourist demand and ultimately by introducing the local middle and upper classes to imported quality products—particularly highly processed products.

Many processed foods are also in high demand in urbanized societies because of their labor-saving and storage characteristics. Processed foods often save a great deal of time in preparing meals. This easy preparation characteristic appears to account for a great deal of the demand for canned goods, for example, in both developed and developing countries. The easy storage of many processed foods, again most notably canned goods, is also a major demand factor. Canned or otherwise preserved products substitute for fresh products that are unavailable at selected times of the year or cannot be kept on hand without costly or often unavailable refrigeration. Like many other HVP foods, convenience items often become necessities as they come to be used more widely.

For some high-value processed foods, demand is also generated by the aggressive marketing tactics of foreign suppliers. This is often the case in countries where much of the importing is done by the government or where HVP's are imported for tourists. If a seller can convince a small number of government buyers that a product is worthwhile at the terms offered, sales can be made even if there is originally little popular interest in the item.

Other demand factors also affect HVP trade. The high value added and employment involved often make food processing an attractive investment in developed and developing countries. These processing facilities usually draw on labor, capital, or technology in relatively abundant supply, but often generate strong growth in demand

for semiprocessed inputs not available in bulk locally. Oilseed meals are a prime example; both the European Community and Eastern European countries import large amounts of oilmeal for producing meat and dairy products, some of which in turn are exported. Japan also imports fruit and fruit pulp, processes it into beverages, and exports the beverage to capture the sizable value added.

The decision to import to satisfy the HVP demand generated by these diet, convenience, and input factors depends on a country's supplies of the products available indigenously, its international buying power, and its HVP trade and development policies. Growth in HVP demand tends initially to be translated directly into import demand in countries with little or no local processing capacity. Establishing local HVP processing capacity generally is a time-consuming process involving several years from initial planning and investment to operation.

Imported HVP products are also often substantially cheaper than HVP products produced locally in limited volume. HVP processing capacity is often extremely costly and capital intensive—sufficiently so to prevent even medium size countries from realizing economies of scale. A partially offsetting factor working to limit growth in HVP imports, however, is the strong policy commitment of most governments to maximizing HVP self-sufficiency. This goal relates not only to the foreign exchange drain involved in importing expensive HVP's but also to concern with capturing the economic growth and employment advantages of food processing.

The end result of the interaction of these different HVP demand and policy factors varied widely by product and by country. But in combination, they generated a 1970's boom in HVP imports without precedent. The developed countries tended to experience strong growth in import demand for semiprocessed products to fuel their own final processing plants and for highly processed quality products to diversify their diets further. The increasingly affluent middle income countries experienced strong growth in import demand over the entire range of processed products because of the pressures they faced to upgrade and diversify diets and their generally limited, often nonexistent, local processing capacity.

### **Forecasting Import Demand**

World imports of high-value products could double, possibly triple, between 1980 and 1990 if the demand factors

and the local production constraints identified above continue. Tables 10 and 11 provide detailed information on the income and population growth assumptions used in this report to forecast growth in HVP import demand. The tables reflect the consensus of most demographers and macroeconomic forecasters that, given slower population and economic growth, demand for agricultural products—particularly HVP products—is likely to expand by 2-3 percent over the 1980's compared with the 3-3.5 percent pace of the 1970's.

Demographers are in general agreement that the 1980's will be a period of gradually slowing population growth rates. The world birth rate, estimated at roughly 30 per 1,000 in 1980, is expected to drop toward 28 per 1,000

by the mid-1980's while the death rate is expected to drop from 12 per 1,000 to possibly 11 per 1,000. Implied in these changing birth and death rates is a drop in the population growth rate from 1.8 percent per year currently to 1.7-1.75 percent by the end of the 1980's (table 10).

While precise forecasts of birth and death rates differ, demographers agree that little change in the more affluent countries' already low growth rates is likely and that the most pronounced changes in population growth will occur in the developing countries. Population growth rates in the less affluent developed and most affluent developing countries should continue to decline but their annual gain in numbers of people should not peak until the middle of the 1990's. It is in these countries that

**Table 10—World population projections to 1990**

Country or region	1982	1983	1984	1985	1986	1987	1988	1989	1990	Growth	
	Million									1980-85	1986-90
Developed countries	787.9	793.5	799.4	805.2	811.2	817.1	823.1	828.8	834.6	0.7	0.7
United States	229.8	232.0	234.1	236.2	238.3	240.5	242.7	244.9	247.1	.9	.9
Canada	24.7	25.0	25.4	25.7	26.1	26.4	26.7	27.1	27.4	1.3	1.2
EC-10	272.5	273.2	274.8	275.8	275.6	276.4	277.2	278.0	278.8	.3	.3
Other Western Europe	89.9	90.4	91.1	91.6	92.1	92.6	93.2	93.4	93.6	.6	.5
South Africa	34.3	35.1	36.0	36.9	37.8	38.8	39.7	40.7	41.7	2.5	2.5
Japan	118.6	119.5	120.4	121.4	122.4	123.3	124.3	125.3	126.3	.8	.8
Oceania	18.1	18.3	18.4	18.6	18.9	19.1	19.3	19.4	19.7	1.1	1.1
Centrally planned countries	1,414.3	1,430.2	1,446.2	1,462.4	1,478.3	1,494.4	1,510.0	1,526.0	1,541.4	1.1	1.0
Eastern Europe	136.3	137.1	138.0	138.8	139.6	140.5	141.3	142.2	143.0	.6	.6
USSR	270.7	273.2	275.6	278.1	280.6	283.1	285.6	288.2	290.8	.9	.9
China	1,007.3	1,019.9	1,032.6	1,045.5	1,058.1	1,070.8	1,083.1	1,095.6	1,107.6	1.2	1.1
Developing countries	2,356.3	2,413.9	2,473.4	2,533.8	2,595.8	2,659.0	2,723.8	2,789.2	2,857.9	2.4	2.4
Latin America	362.4	370.8	379.5	388.2	397.0	405.8	414.9	423.0	433.1	2.3	2.2
Middle America	111.4	114.3	117.3	120.2	123.2	126.3	129.4	131.7	135.7	2.5	2.4
Mexico	71.3	73.2	75.1	77.0	78.9	80.9	82.9	84.0	86.9	2.6	2.4
Other Middle America	40.1	41.1	42.2	43.2	44.3	45.4	46.5	47.7	48.8	2.5	2.4
Brazil	127.1	129.9	132.7	135.7	138.5	141.4	144.4	147.4	150.5	2.2	2.1
Argentina	28.0	28.4	28.8	29.1	29.5	29.9	30.3	30.7	31.1	1.3	1.3
Other South America	95.8	98.2	100.7	103.2	105.8	108.2	110.7	113.2	115.8	2.5	2.3
North Africa/Middle East	259.5	267.3	275.4	283.7	292.3	301.2	310.3	319.6	329.3	3.0	3.0
High-income	104.2	107.5	111.0	114.5	118.2	122.0	125.9	129.9	134.1	3.2	3.2
Low-income	155.3	159.8	164.4	169.2	174.1	179.2	184.4	189.7	195.2	2.9	2.9
Sub-Saharan Africa	347.1	357.2	367.5	378.2	389.1	400.4	412.0	424.0	436.3	2.9	2.9
South Asia	953.3	975.2	997.6	1,020.5	1,044.0	1,068.0	1,092.5	1,117.6	1,143.3	2.3	2.3
India	723.4	739.3	755.6	772.2	789.2	806.6	824.3	842.4	861.0	2.2	2.2
Other South Asia	229.9	235.9	242.0	248.3	254.8	261.4	268.2	275.2	281.0	2.2	2.2
Southeast Asia	152.5	156.1	159.7	163.3	167.1	170.8	174.7	178.7	182.7	2.3	2.3
Thailand	48.8	49.9	50.9	51.9	53.0	54.0	55.1	56.2	57.3	2.0	2.0
Other Southeast Asia	103.7	106.2	108.8	111.4	114.1	116.8	119.6	122.5	125.4	2.4	2.4
East Asia	281.6	287.3	293.7	299.9	306.3	312.8	319.5	326.3	333.2	2.1	2.1
High-income	66.2	67.5	68.7	70.0	71.3	72.7	74.1	75.5	76.9	1.9	1.9
South Korea	39.4	40.0	40.6	41.2	41.8	42.3	43.3	44.2	45.0	1.4	1.9
Taiwan	18.5	18.8	19.2	19.6	19.9	20.3	20.6	21.0	21.4	1.9	1.8
Low-income	215.4	219.8	225.0	229.9	235.0	240.1	245.4	250.8	256.3	2.2	2.2
Indonesia	149.4	152.1	155.5	158.6	161.8	165.0	168.3	171.7	175.1	2.0	2.0
Philippines	50.7	51.9	53.2	54.5	55.8	57.1	58.5	59.9	61.3	2.4	2.4
World total	4,558.5	4,637.6	4,719.0	4,801.4	4,885.3	4,970.5	5,056.9	5,144.0	5,233.9	1.7	1.7

growth in HVP demand has been and is forecast to be most pronounced. Growth rates in the lowest income developing countries are not expected to peak until the early 1990's and their annual increase in numbers will continue at record levels through the end of the century. Underlying these forecasts is the assumption that governments will intervene through social programs to reduce birth rates to well below the levels normally associated with the per capita incomes likely in most of the developing countries.

However, the drop in population growth rates forecast between now and 1990 is likely to be too small relative to pressures to upgrade and diversify diets to retard growth in HVP demand appreciably. The distribution of growth across the low-income developed and affluent developing countries could well work to be as bullish as the population growth pattern of the 1970's. While their

specific forecasts vary, macroeconomic forecasters agree that the economic outlook for the first half of the 1980's is less favorable than over most of the 1970's and 1960's. The early 1980's have been and are likely to continue to be marked by relatively slow world economic growth and serious, persistent problems of inflation and unemployment. U.S. recovery began in mid-1983 and recovery is expected to follow, with a 2- to 8-quarter lag, in the rest of the world. However, recovery is expected to be weaker and more prolonged than in past cycles, and growth from 1983 through 1985 is not expected to bounce back to the highs that followed earlier recoveries (table 11).

Several more basic problems have led many forecasters to expect dampened longer term economic growth and continued high inflation and unemployment rates. Among these longer term questions are the problem of making the transition to alternative energy sources, short supplies

Table 11—World GNP growth projections to 1990<sup>1</sup>

Country or region	1982	1983	1984	1985	1986	1987	1988	1989	1990
Percent									
Developed countries:	-0.22	1.67	3.20	3.30	3.05	3.48	3.49	3.25	3.46
United States	-1.80	3.00	4.30	3.50	2.60	3.90	3.70	3.00	3.30
Canada	-4.40	.00	3.00	2.50	2.50	3.30	3.20	2.50	2.70
EC-10	.00	1.00	2.00	3.00	3.00	2.80	3.00	3.00	3.30
Other Western Europe	1.00	1.00	2.00	2.80	2.70	2.80	3.00	3.50	3.30
South Africa	2.00	2.00	3.50	3.50	4.00	4.00	3.50	3.00	4.00
Japan	2.50	2.50	4.00	4.00	4.50	4.50	4.50	4.50	4.50
Oceania	2.80	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Centrally planned countries:	2.50	2.50	2.64	2.64	2.71	2.71	2.71	2.71	2.71
Eastern Europe	1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.00	2.00
USSR	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
PRC	4.00	4.00	4.00	4.00	4.50	4.50	4.50	4.50	4.50
Developing countries:	1.61	1.59	4.30	4.48	5.15	5.26	5.21	5.24	5.20
Latin America	-.67	-2.51	2.78	3.78	4.73	4.82	4.73	4.79	4.73
Middle America	.82	-2.38	.48	2.00	5.42	5.80	5.42	5.65	5.42
Mexico	1.00	-2.50	.00	2.00	6.50	7.00	6.50	6.80	6.50
Other Middle America	.24	-2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Brazil	0	-5.00	5.00	5.50	5.60	5.60	5.60	5.60	5.60
Argentina	-5.70	.00	3.00	3.50	4.00	4.00	4.00	4.00	4.00
Other South America	-1.00	.15	1.50	3.00	3.00	3.00	3.00	3.00	3.00
North Africa/Middle East	2.85	3.40	5.02	4.47	5.48	5.41	5.34	5.38	5.31
High-income	1.50	2.00	4.00	5.00	6.50	6.40	6.30	6.30	6.20
Low-income	5.60	6.23	7.10	3.40	3.40	3.40	3.40	3.50	3.50
Sub-Saharan Africa	2.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
South Asia	.98	4.24	4.29	4.24	4.24	4.96	4.96	4.96	4.96
India	.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Other South Asia	4.10	5.00	5.20	5.00	5.00	8.00	8.00	8.00	8.00
Southeast Asia	6.53	6.45	6.45	6.75	6.75	6.75	6.75	6.75	6.75
Thailand	6.70	6.60	6.60	7.00	7.00	7.00	7.00	7.00	7.00
Other Southeast Asia	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
East Asia	4.15	5.14	7.44	7.13	7.63	7.75	7.75	7.75	7.75
High-income	4.88	6.07	7.63	7.50	8.00	8.00	8.00	8.00	8.00
Low-income	1.95	2.35	6.85	6.00	6.50	7.00	7.00	7.00	7.00
Indonesia	5.00	5.50	6.00	6.00	6.00	6.00	6.00	6.00	6.00
World total	.55	1.80	3.00	3.30	3.25	3.55	3.55	3.40	3.55

<sup>1</sup>Data are for calendar years.

and higher prices for other key inputs, and lagging productivity—particularly in the labor and capital sectors. Contributing to these macroeconomic problems are broader international problems such as uncertain trade, exchange, and finance regimes.

Adjustments to these longer term, generally structural problems should be largely complete by 1985 and lend support to economic growth during the last half of the decade. The end result could be a dampened business cycle from 1985 to 1990 with less year-to-year variability and growth averaging 2.5-3 percent per capita compared with 3-4 percent per capita in the 1970's.

As with population growth, the pattern of growth in economic activity across countries and the absolute levels of income forecast for much of the world should minimize this bearish outlook's impact on demand for HVP products. Underlying this prognosis is the expectation that income-related shifts in diets toward more livestock products will continue, possibly accelerate, in the middle-income countries with reasonably favorable economic prospects and will tend to offset poor demand prospects elsewhere.

An added factor likely to reinforce the impact of population and income growth in shaping HVP demand is government policy with regard to upgrading and diversifying diets. The commodity projections that follow assume that most countries will continue to promote diet improvements after the hopefully short-term import policy retrenchment of the early 1980's is reversed in mid-decade, but with less vigor than in the 1970's due to the less favorable economic environment.

How much of the 3-percent annual growth in HVP demand implied in these population and macroeconomic indicators will be converted into import demand depends on several factors, the most critical of which is maintaining and expanding local processing capacity and securing foreign exchange. While virtually all the major HVP importing countries have plans to expand processing capacity, in most cases, the diverse range of products involved and the limited funding available for investment are likely to keep the middle-income countries dependent on imports to meet a large, albeit declining, share of their HVP demand. The considerable underutilized processing capacity available in the developed countries and the economies of scale at play there suggest many of the HVP's likely to be in greatest demand can be purchased cheaper on the world market than produced locally.

While much of the HVP import demand likely in the 1980's will be in the developed countries, the developing countries are likely to be the source of greatest growth. In many cases, converting local HVP import demand into purchases will hinge on the availability of foreign exchange. While foreign exchange is currently a limiting factor in many cases, the economic growth and resolution of the current debt crisis likely after mid-decade should ease this limitation considerably—particularly in countries like Mexico and Nigeria.

The more detailed assumptions made about local growth in HVP production and processing capacity are presented in each of the major commodity statements that follow. In general, they are based on an assessment of the trends of the last 10 to 15 years, adjusted wherever possible to reflect information on resource availability, investment plans, and the judgment of ERS specialists. The HVP import levels implied for the 1980's in these demand and supply forecasts are detailed in the materials that follow.

### **The Commodity Composition of HVP Imports**

For purposes of convenience, HVP imports can be divided into semiprocessed, highly processed, and unprocessed but high-value categories. The semiprocessed category dominates, with 1980 world imports in excess of \$60 billion; the highly processed and unprocessed high-value categories are somewhat smaller at over \$35 billion and nearly \$25 billion, respectively. Each of these categories is treated in detail below.

**Semiprocessed Products.** The HVP demand factors noted above and the importing countries' efforts to maximize HVP self-sufficiency combined over the 1970's to promote trade in semiprocessed products for use as inputs in the production of highly processed, generally consumer-ready products. Typical of the semiprocessed products traded as inputs are vegetable meals used in livestock feeding, coffee, and meat; all three undergo varying degrees of final processing in the importing country before distribution to consumers.

*Roasted coffee* is by far the most valuable of the 30 major semiprocessed products traded extensively. World imports of almost \$13 billion in 1980 placed coffee second in trade value among all the agricultural products only to wheat. Moreover, coffee has been among the fastest growing HVP's—up by over 300 percent from 1970 to 1980.

## Imports and Importers

Almost all of this growth, however, has been due to increases in the price of coffee—up 17 percent per year from \$945 per tonne in 1970 to over \$3,365 per tonne in 1980. Coffee trade volume increased by less than 1 percent per year (table 12). However, as the sharp drop in coffee prices experienced in 1981 demonstrates, prices are extremely volatile while trade volumes are relatively stable.

Table 12—World coffee imports<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	3,278	942	3,089
1971	3,315	834	2,764
1972	3,569	911	3,250
1973	3,803	1,141	4,339
1974	3,391	1,266	4,294
1975	3,569	1,206	4,305
1976	3,655	2,308	8,435
1977	2,931	4,278	12,540
1978	3,429	3,267	11,204
1979	3,800	3,189	12,117
1980	3,717	3,362	12,496
1981 <sup>2</sup>	3,763	2,285	8,600
1990	4,000-4,100	5,300-6,800	21,000-28,000
Percent			
Growth rate:			
1970-80	0.6	17.1	17.7
1980-90	0.3-0.6	6-9	6-10

<sup>1</sup>SITC code 071.1.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, 1981 trade value would be \$9.6-\$9.8 billion and the 1981 unit value would be \$2,600 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

Because of its unusually high price, coffee has generally been imported in quantity by only the most affluent countries. The European Community is the largest importer of coffee, with purchases of nearly \$5 billion in 1980; the United States follows closely with purchases of \$4 billion. Japan and Spain rank third and fourth with imports of \$700 million and \$600 million, respectively. Given the climatic constraints on the production of coffee and the low price elasticity of demand, these affluent countries have no choice but to import coffee from a few large tropical producers regardless of its price.

While coffee was initially a luxury good in virtually all the major importing countries, it has gained widespread acceptance and won everyday usage in the major consuming countries over the last 10-15 years. Price elasticities in the major importing countries appear to be very

low—generally less than -0.2 as the relatively small changes in demand experienced during the 1977 runup and 1981 falloff in prices suggest. Income elasticities of demand also appear to be low—from +0.1 to +0.3—in the most affluent countries such as the United States where per capita consumption is approaching what appears to be a 6-7 kilogram per capita saturation point. This suggests that growth in demand and imports in the 1980's in the traditional importing countries will be weak.

But elsewhere in the developed countries, where per capita intake averages 4-5 kilograms per year or less, income elasticities range from +0.6 to +1 and further growth in demand appears likely. With the exception of Algeria (a major coffee importer), however, the OPEC countries and many of the other middle-income developing countries are mainly tea drinkers or coffee exporters. As a result, one of the major sources of growth in import demand for most other HVP's—affluence-related demand in developing countries—could be noticeably lacking for coffee.

Hence, on balance, most of the world's coffee imports are likely to continue to move to the developed and selected centrally planned countries and growth in the value of coffee imports is likely to depend on the recovery and eventually the rise in prices visualized in the international coffee agreement. Import volume through 1990 can be expected to increase by 0.5 percent per year or less and reach 4-4.1 million tonnes by the end of the decade. Should the coffee exporters succeed in raising real prices in the middle and late 1980's back to 1979-81 highs and in sustaining growth in prices over the remainder of the decade at the 1-2 percent rate targeted in their marketing agreement, nominal prices could increase by 6-9 percent per year for the decade as a whole. Under this scenario, import value would increase by 7-10 percent per year to \$21-\$28 billion by 1990.

Beef is the second most valuable HVP item traded on the world market in 1980; imports of fresh, chilled, and frozen beef amounted to nearly \$9 billion in 1980. Most of this total was made up of beef destined for further processing and, consequently, is classified as a semiprocessed product. As in the coffee case, prices have risen substantially since 1970. But unlike coffee, the beef trade volume has also increased sharply—by more than 70 percent.

Like coffee, most beef is imported by developed countries. The United States is by far the largest importer, taking \$1.8 billion in 1980 or 3 times the amount imported in 1970. The Soviet Union imported nearly \$600 million

worth of beef in 1980, raising it from an insignificant importer in 1970 to the world's second largest. The EC purchased less beef in 1980 than in 1970 but paid enough more for it to rank as the third largest importer. Japan and Greece are the fourth and fifth largest importers.

Meat, often beef, is generally one of the first commodities involved in upgrading and diversifying diets. Moreover, once added to the diet, beef demand seldom slackens off as incomes grow until per capita consumption levels exceed the 30-40 kilogram per capita levels common in the most affluent countries. Income elasticities of demand in the developed countries, the Soviet Union, and Eastern Europe still appear to be in excess of +0.3 to +0.6, while elasticities in middle-income countries range as high as +1 to +1.5.

Several of the technical factors involved in beef production tend to translate much of this affluence-related growth in demand for beef at least initially into import demand. Biological constraints and the sizable investment necessary to expand and sustain growth in beef production make it difficult for countries with nascent livestock operations to increase output fast enough to satisfy local consumers. Strong, sustained growth in output generally requires large established industries.

High-volume production, in turn, generally requires a substantial resource base either in the form of extensive pasture to support nonfed operations or a cheap crop base and access to capital to support confined feeding operations. Moreover, the availability of relatively low-priced beef—from countries such as Australia and Argentina with extensive forage bases and established herds—has to be weighed against the gains a country might ultimately realize in converting forage or feed into locally produced beef. These factors combined have tended to expand imports as fast as or faster than growth in demand for beef in the low-income developed and newly affluent developing countries.

Equally important, the beef market is also a highly differentiated market with a large number of different fed and nonfed quality classes. This market structure also encourages trade. The United States, for instance, is the largest producer and exporter of high-quality, grain-fed beef; but as noted above, the United States is also the world's largest importer of lower grade, nonfed beef.

While per capita beef intake levels in the developed countries are high and future growth is likely to be slow,

rapid growth in demand is likely in many of the developing countries as diets are upgraded and diversified. Particularly rapid growth was reported in demand for and imports of beef in the centrally planned countries and OPEC in the 1970's. Per capita consumption is still low enough in these countries to make further growth likely. Together OPEC and the centrally planned countries imported \$1.3 billion of beef in 1980, a fraction of their potential should they continue efforts to improve diets. Given the income growth rates shown in table 11, combined with the population growth rates in table 10, the volume of beef demand could continue to increase by 2.5-3.5 percent per year.

The growth in import volume associated with this increase in overall demand is likely to slow somewhat, however, from the 5-percent rate of the 1970's to possibly 4-5 percent as many countries intensify efforts to increase their local output. Should beef prices in the 1980's fare as well relative to inflation as during the 1970's and should overall price levels rise by 6 percent per year as forecast, beef export unit values could increase by 5-7 percent per year. Under this scenario, the value of world trade could increase by 9-12 percent per year, possibly to \$20-\$26 billion by 1990 (table 13).

With \$8 billion in trade in 1980, trade in vegetable oils nearly equaled world trade in beef. The rationale for

**Table 13—World beef imports<sup>1</sup>**

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	2,088	910	1,899
1971	1,978	1,069	2,114
1972	2,352	1,261	2,965
1973	2,549	1,638	4,176
1974	2,250	1,702	3,846
1975	2,355	1,572	3,703
1976	2,665	1,501	4,001
1977	2,911	1,655	4,819
1978	3,124	1,900	5,934
1979	3,433	2,344	8,048
1980	3,404	2,582	8,792
1981 <sup>2</sup>	3,384	2,458	8,318
1990	5,050-5,550	4,000-4,800	20,000-26,000
		Percent	
Growth rate:			
1970-80	5.3	8.6	14.0
1980-90	4.5	5.7	9.12

<sup>1</sup>SITC code 011.1.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, 1981 trade value would be \$9.3-\$9.5 billion and the 1981 unit value would be \$2,765 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

importing vegetable oils varies widely by country and includes the entire range of production shortages, diet upgrading, diet diversification, and input demand factors outlined in the introduction to this chapter. Income elasticities of demand for vegetable oils appear to range from as low as +0.1 to +0.3 in the developed countries—where food demand is nearly saturated and industrial use has become the most important demand factor—to as high as +1.5 to +2 in developing countries in South Asia.

A significant portion of the 1970's record increases in vegetable oil demand was translated into import demand because of the concentration of much of the world's capacity to produce oilseeds and, in turn, vegetable oils in a relatively few countries. Over half of the world's oilseed and oil palm production is concentrated in the United States, Brazil, Argentina, and Malaysia. Soil and climate as well as technology have combined to give these countries a significant comparative, possibly absolute, cost advantage in producing the raw material used in the production of vegetable oils.

Growth in vegetable oil demand, however, has been far more generalized. The countries that have experienced the fastest growth in demand for oils include the lower income developed countries, the full range of developing countries, and several of the most affluent countries with expanding industrial demand. Hence, many of the countries experiencing the strongest growth in vegetable oil demand face the alternative of importing either bulk oilseeds for processing or purchasing oil directly to fill much of their local demand.

A country's decision to import oilseeds for processing into oil instead of importing oils has generally been shaped by at least three major factors—the availability of local processing, the return on processing, and the trade policies in force—particularly differences in tariffs on raw oilseeds and processed or semiprocessed oils. While not nearly as sophisticated as the technology used in producing many other HVP products, considerable technical expertise and costly physical plants are required for seed crushing. Although not a serious constraint in the developed countries or even the more advanced developing countries, the availability of local processing capacity or the technical expertise and capital needed to build or expand capacity lead many lower income countries to purchase oil.

Many developing countries have also found it attractive to import at least part of their oil needs from developed

countries that crush large amounts of seed into meal for animal feed and discount the surplus oil byproduct to dispose of it on the world market. Processing margins on the world market have generally been narrow enough—occasionally negative—to convince many developing countries to limit costly investment in new or expanded local capacity in favor of oil imports.

The same quality differentiation at work in the beef market is also at work in the vegetable oil market. A sophisticated system of premiums and discounts ties the many different oils together according to their taste, processing, and chemical characteristics. As a result, the vegetable oil market is really a collection of submarkets with many countries—such as the United States and the EC member countries—both importing and exporting oils to take advantage of discounts and premiums.

Both vegetable oil import prices and quantities doubled during the 1970's to increase the value of world trade by more than 400 percent. Soybean oil is still the highest in value despite a unit price well below many other oils. However, palm oil with an even lower unit value is now shipped in greater quantity. The European Community is the world's largest importer of vegetable oils, with 1980 imports from external sources valued at \$1.6 billion. The EC is also one of the world's largest exporters—particularly of the soyoil produced in the Community's meal industries from imported seeds. The Community's very limited oilseed production forces it to import either seeds or oil; price differences between seed and byproducts and among different types of oil products determine the composition of imports. Oil imports are used primarily as inputs for the food processing and industrial sectors rather than as oil for cooking. Relatively little of this imported oil is soybean oil; palm oil dominates, followed by olive, peanut, and coconut oils.

India, the second largest importer and a better example of the diet upgrading factors at play, purchased nearly \$1 billion in vegetable oils in 1980—including over \$500 million in soybean oil, making it the largest soybean oil importer and a large U.S. market for vegetable oil exports. The United States is also a large oil importer, with 1980 purchases of \$540 million—mainly palm oil and coconut oil priced cheaply enough to compete effectively with domestically produced soybean and sunflower oils.

Over the decade ahead, the development of larger and more sophisticated vegetable oil markets likely with diet improvements in the developing countries and expanding industrial uses in the developed countries should keep

growth in oil demand up to the 2.5-3.5 percent rate of the 1970's. With oilseed and palm production capacity likely to continue to be heavily concentrated in a few countries, this demand growth should translate into more trade—either in oilseeds or oils. Given many of the middle-income countries' emphasis on developing local crushing capacity, trade in oil could grow by 4-6 percent per year in volume or somewhat slower than in the 1970's.

Should oil prices over the decade ahead continue to move roughly in line with the general rate of inflation for all the agricultural products traded on the world market, unit prices could also increase by 4-6 percent annually in nominal terms or stay about constant in real terms.

Trade value under this scenario would increase by 8-12 percent per year to possibly \$20-\$29 billion by 1990 (table 14).

*Oilseed meals*, with world imports of over \$5.5 billion in 1980, make up the fourth largest semiprocessed product category. Like vegetable oil, both meal prices and import volume increased substantially in the 1970's, leading to an almost sixfold increase in the value of trade. Meal continues, however, to be the lowest valued of all the semiprocessed products with an average import unit value of only \$210 per tonne in 1980 (table 15).

Past growth in meal demand has depended mainly on ef-

**Table 14—World vegetable oil imports<sup>1</sup>**

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	5,153	295	1,519
1971	5,825	318	1,854
1972	6,265	292	1,827
1973	5,340	410	2,190
1974	5,366	767	4,115
1975	6,999	616	4,314
1976	8,111	475	3,856
1977	8,630	607	5,241
1978	9,674	639	6,180
1979	10,606	748	7,934
1980	12,113	656	7,946
1981 <sup>2</sup>	12,318	599	7,376
1990	17,000-20,500	1,000-1,200	17,000-25,000
Percent			
Growth rate:			
1980/1970	8.5	9.2	17.7
1990/1980	4.6	4.6	8.12

<sup>1</sup>SITC codes 424 and 432.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, 1981 trade value would be \$8.1-\$8.2 billion and the unit value would be \$675 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

**Table 15—World meal imports<sup>1</sup>**

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	11,057	84	923
1971	11,691	87	1,021
1972	12,669	96	1,213
1973	14,237	189	2,697
1974	14,628	171	2,494
1975	14,532	144	2,086
1976	18,358	158	2,900
1977	18,652	198	3,691
1978	21,850	182	3,971
1979	23,343	203	4,678
1980	25,802	212	5,443
1981 <sup>2</sup>	27,612	224	6,185
1990	42,000-50,000	360-435	15,500-21,500
Percent			
Growth rate:			
1980/1970	8.5	9.0	17.5
1990/1980	5.7	5.5-7.5	11-15

<sup>1</sup>SITC codes 081.3 and 081.41.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, 1981 trade value would be \$6.9-\$7.1 billion and the 1981 unit value would be \$252 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

forts in the developed countries to import the high-protein feeds necessary to capture the value added in meat production. The high protein content of meal and its relatively low price make it an important input in least-cost feed rations for poultry, eggs, pork, dairy, and beef products. At play in converting meal demand into import demand are some of the same factors cited above—the comparative advantage of the United States and Brazil in oilseed production, seed-crushing capacity, and meal-processing margins. Brazil has also used export taxes and price incentives to promote meal exports at the expense of oilseed trade. Not surprisingly, given its sophisticated livestock operation and a high grain price structure that makes non-grain feeds relatively less costly, the European Community is by far the world's largest importer of oilseed meals, accounting for over half of total world trade. The European Community and the Eastern European countries, including the USSR, together account for two-thirds of total world imports.

Future growth in meal imports worldwide will depend heavily on trade and livestock policy decisions in the major importing and exporting countries. The EC's intention to reduce the gap between internal and world prices for grains and its subsidies for feeding wheat will work to dampen growth in meal demand and ultimately meal trade in the early 1980's. Growth in the middle-income countries' feed-livestock economies will also depend on government policy and livestock sector support. But most

middle-income countries, including virtually all the OPEC countries, continue to be heavily committed to increasing local livestock feeding in an attempt both to continue diet improvements and to limit costly meat imports.

Also in question is what form meal imports will take. Increased demand for meal in many of the large middle-income countries could be the added incentive needed to encourage development or expansion of domestic seed-processing capacity to capture the value added in both meal and oil production. However, the emergence of meal demand in the smaller developing countries with nascent livestock operations but no resources to finance developing crushing capacity should partially offset any shift toward seed rather than meal imports over much of the decade. Exporter policy will also influence whether meal or beans will be imported. Brazil has been quite successful to date in maximizing exports of meal rather than seed.

On balance, growth in meal imports in the 1980's should slow somewhat from the pace of the 1970's—particularly early in the decade when any adjustment in EC feed prices to encourage increased use of local grains rather than imported seeds and meal would be made, before economic growth picks up, and before the middle-income countries and the Soviet Union grow to take a more dominant position in the market. Trade by 1990 could reach \$16-\$22 billion due to 5-7 percent growth in volume and, given a repeat of meals' 1970's price behavior relative to the overall rate of inflation, 5.5-7.5 percent growth in unit prices.

Trade in refined sugar reached 8 million tonnes in 1980 and was valued at nearly \$5 billion. If internal EC trade flows are excluded, the Soviet Union was the world's largest importer with purchases of \$530 million, followed by Iran, Indonesia, Egypt, Nigeria, Sudan, Chile, Saudi Arabia, Algeria, and Turkey. The importance of these developing countries and the overall size of the refined sugar market relate directly to the diet factors referred to above. In general terms, rapid growth in demand for sugar tends to characterize the early stages of diet upgrading as well as diet diversification. Sugar tends to be used both for direct consumption and as an input in other products such as pastries and beverages.

Given the many areas of the world in which either sugar beets or sugarcane can be produced, translating sugar demand into sugar imports has been chiefly a matter of refining capacity, returns on processing, and use of imports to supplement local production. Most of the largest importers do not have the facilities to refine all the sugar they need or in many cases to refine all the beets or

cane they could produce. The return on even the relatively limited capital needed to develop refining capacity has often been low enough to encourage deficit countries to shop for refined sugar bargains abroad. The price of refined sugar is often close to (on occasion below) raw sugar prices, and well below many deficit countries' production and refining costs.

Future trade in refined sugar will depend on continued growth in sugar demand with further diet improvements and on narrow world market processing margins. Given the emphasis of countries like the USSR, Nigeria, Sudan, and Turkey on expanding raw sugar production and refining capacity, growth in sugar trade is not likely to match the 16- to 18- percent average of the 1970's. Adding to this uncertainty is the question of the changes in demand for sugar—both raw and refined, imported or produced locally—likely if use of high-fructose corn sweeteners takes hold worldwide.

Given these general factors, trade volume and unit price gains in the 1980's could lag well behind those of the 1970's. Moreover, with the relatively small proportion of sugar traded and interannual fluctuations in beet and cane supplies that are likely to continue in the 1980's, both the raw and refined sugar markets should continue to be extremely volatile (table 16).

Table 16—World sugar imports<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	4,711	118	555
1971	4,779	138	659
1972	4,703	191	897
1973	4,383	257	1,125
1974	4,632	445	2,060
1975	5,081	589	2,994
1976	5,670	377	2,137
1977	6,424	301	1,935
1978	6,954	307	2,130
1979	7,284	337	2,454
1980	8,513	576	4,900
1981 <sup>2</sup>	10,129	544	5,512
1990	11,500-14,000	875-1,050	10,000-14,500
		Percent	
Growth rate:			
1980/70	5.9	11.8	17.9
1990/80	3.5	6.8	9.13

<sup>1</sup>SITC code 061.2; includes raw and refined sugar.

<sup>2</sup>If the impact of the 1981 depreciation of the U.S. dollar is factored out, 1981 trade value would be \$6.2 billion and the 1981 unit value would be \$610 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

While less than half the value of beef trade, *poultry meat* has grown faster than trade in any other meat. Both the \$2.1 billion in 1980. Growing faster than both pork and sheepmeat, poultry meat has become the second most traded meat in the world after beef.

This rapid growth in trade relates to a particularly strong combination of diet upgrading and diversification factors on the demand side, and processing capacity and profitability factors affecting supply. The income elasticities of demand for poultry are quite high—particularly given dietary preferences in much of the Moslem world. At the world level, income elasticities appear to average +0.4 to +0.5, but in large areas of the Caribbean, North Africa and the Middle East, the Soviet Union, and parts of Asia income elasticities appear to range as high as +1 to +1.5.

The strong growth in poultry demand of the 1970's has generally been met from expanded domestic production due to the ease with which poultry technology and feed inputs can be purchased on the world market and the relatively high value added that can be captured in local feeding. But in the most rapidly emerging middle-income countries, demand has grown faster than capacity and has increased imports sharply.

Among the developed countries, quality differences and convenience buying have also converted some of the expansion in poultry demand of the 1970's into import demand. For example, Saudi Arabia and the USSR rank as the world's largest importers of poultry meat due largely to their inability to expand capacity fast enough to meet demand. The EC ranks as the world's third largest poultry meat importer. But unlike Saudi Arabia and countries like the USSR, who import to upgrade their diets and find poultry the most inexpensive way of doing so, the EC imports largely for convenience and on the basis of product differentiation.

The prospects for continued growth in poultry trade volume in the 1980's are good, particularly as more middle-income countries with limited local production capacity push to improve their diets. The imports of Saudi Arabia, Kuwait, the United Arab Emirates, and Japan should all continue to grow, but their growth will be slow relative to that in other areas. Imports by Iraq, Yemen, Egypt, Nigeria, and possibly Mexico and Algeria could grow at an appreciably faster pace as their diets continue to improve.

Hence, poultry import volume could increase by 7-9 percent per year or near the record pace set in the 1970's. Given the competitive nature of the market and the subsidized export campaigns currently underway in a number

price of poultry and the quantity shipped virtually tripled over the 1970's to push the value of world trade up to of supplier countries, poultry trade prices early in the 1980's could continue to fall relative to the general inflation rate and possibly even in nominal terms. While slower technological progress in the most advanced countries should work to keep real prices from continuing the sharp dropoff of the last two to three decades, EC, U.S., and Brazilian export competition is likely to keep real import prices constant or declining. With this bullish volume and bearish price scenario, world poultry trade could reach \$6.0-\$8.5 billion by 1990 (table 17).

*Flour imports*, the next largest semiprocessed category, are also concentrated largely in the developing countries. Egypt, Saudi Arabia, Algeria, Vietnam, and the Soviet Union are the world's largest importers, purchasing over half of the world's more than \$2 billion in imports (table 18). These countries—with the exception of the USSR, where flour purchases are sometimes destined for delivery to third countries—import large quantities of flour because their own milling operations are not able to meet domestic demand for flour. Most developed countries, on the other hand, are self-sufficient in flour and many have considerable excess capacity.

Also important in shaping the world flour market is the fact that the technology used in milling is relatively unsophisticated and involves relatively little capital. However,

**Table 17—World poultry meat imports<sup>1</sup>**

Year	Volume	Unit value	Value
1970	502	671	337
1971	575	670	385
1972	581	754	438
1973	597	1,059	632
1974	663	1,045	693
1975	704	1,148	808
1976	815	1,194	973
1977	959	1,236	1,185
1978	989	1,328	1,313
1979	1,173	1,407	1,650
1980	1,453	1,465	2,128
1981 <sup>2</sup>	1,796	1,379	2,477
1990	2,900-3,400	2,100-2,500	6,000-8,500
Percent			
Growth rate:			
1980/1970	9.9	8.2	18.1
1990/1980	7-9	4-6	11-15

<sup>1</sup> SITC code 011.4.

<sup>2</sup>If the impact of the 1981 depreciation of the U.S. dollar is factored out, 1981 trade value would be \$2.8 billion and the 1981 unit value would be \$1,552 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

the excess capacity available in the developed countries has worked to keep the return on milling small, occasionally negative, and has led many of the developing countries with mushrooming flour demand to purchase the semiprocessed product on the world market while developing or in lieu of developing their own milling capacity.

The rapid growth in flour demand in the increasingly affluent middle-income countries with limited milling capacity suggests that trade in wheat flour could continue to increase near the 4-percent pace of the 1970's. However, increased emphasis on capturing the value added in milling could slow the pace of growth somewhat. Also critical in determining the pace of growth in flour trade will be the willingness of the major exporters such as the EC and the United States to continue to subsidize as much as half of the cost of flour imports via export subsidies and aid programs. Should flour prices continue to increase at about the general 6-percent rate of inflation forecast for the 1980's and volume growth continue near the 1970's levels, the value of flour trade could approach \$3.7-\$5 billion by 1990.

*Pork and sheepmeat* are the other major semiprocessed commodities traded worldwide with imports of \$4.3 billion and \$1.8 billion, respectively, in 1980. If intra-EC trade is excluded, Japan is the largest importer of these

meats, purchasing \$410 million of pork and \$150 million of sheepmeat. The Soviet Union, another large importer, purchased \$185 million of pork and \$170 million of sheepmeat in 1980. The United States and the European Community are also large importers of pork, while Iran, Iraq, Saudi Arabia, and the United Arab Emirates are large sheepmeat importers.

The demand for these meats and the rationale underlying their import are similar to the factors at play in beef and poultry demand. Both meats are used to upgrade and diversify diets—pork in the non-Moslem developing and developed countries as a convenience or variety meat, and sheepmeat in the affluent Moslem countries. Pork is similar to poultry in that the feeding technology is very mobile and feed is easy to import, while sheepmeat technology parallels beef technology.

Over the decade ahead, imports of these meats should continue to rise, but they will be subject to a number of pressures that will work to slow growth—particularly in pork. Pork has very definite production cycles that affect both its price and availability. Pork is also relatively easy to produce, with a sizable value-added component that tends to encourage local production. Moreover, with Moslem dietary laws, pork's potential market is appreciably smaller than the poultry or even the higher priced beef markets. Moreover, while the convenience and variety pork trade destined for the United States and the other developed countries should continue to expand, it is likely to grow at a slower rate than in the 1970's as per capita intake reaches saturation levels.

Sheepmeat imports, on the other hand, are facing growing competition from live animal trade to the large Middle Eastern market where Moslem slaughter rules can be insured. Hence, on balance, trade in these two categories is likely to grow at a slower pace than in the 1970's. By 1990, pork trade could reach \$11-\$17 billion, while sheepmeat could reach \$3.6-\$5 billion (tables 19 and 20).

Table 18—World imports of wheat flour<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	5,035	86	433
1971	4,640	91	424
1972	3,981	93	369
1973	4,523	135	612
1974	4,454	210	937
1975	4,523	237	1,072
1976	4,536	215	973
1977	5,515	191	1,051
1978	6,444	199	1,280
1979	6,935	223	1,553
1980	6,783	283	1,921
1981 <sup>2</sup>	7,271	293	2,128
1990	8,500-9,500	435-525	3,700-5,000
Percent			
Growth rate:			
1980/1970	4.4	11.4	15.8
1990/1980	2.3	5.7	7.10

<sup>1</sup> SITC code 046.

<sup>2</sup>If the impact of the appreciation of the U.S. dollar in 1981 is factored out, the value of 1981 flour trade would be \$2.3-\$2.5 billion and the unit value would be \$325-335 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

**Highly Processed Products.** Although not yet as large as the trade in semiprocessed products, trade in highly processed, generally consumer-ready products grew more rapidly over the 1970's to reach almost \$35 billion in 1980. The differences between the semiprocessed and highly processed components of the HVP market mirror many of the differences between the HVP and LVP markets. On average, the unit values of highly processed products are much higher than those of semiprocessed products—as high as \$10,000 per tonne for cigarettes and instant cof-

**Table 19—World pork imports<sup>1</sup>**

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	1,040	908	944
1971	1,243	845	1,050
1972	1,315	1,014	1,333
1973	1,302	1,495	1,946
1974	1,265	1,466	1,854
1975	1,338	1,764	2,360
1976	1,438	1,836	2,640
1977	1,492	1,818	2,712
1978	1,539	2,089	3,215
1979	1,715	2,306	3,954
1980	1,816	2,372	4,307
1981 <sup>2</sup>	1,975	2,278	4,500
1990	2,700-3,300	4,200-5,000	11,500-16,500
Percent			
Growth rate:			
1980/1970	4.5	10.5	15.1
1990/1980	4.6	6-8	10-14

<sup>1</sup>SITC code 011.3 and 012.1.<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, the 1981 import level would be \$4.9-\$5.1 billion and the unit value would be \$2,550-\$2,575 per tonne.Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.**Table 20—World sheepmeat imports<sup>1</sup>**

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	723	552	399
1971	726	557	404
1972	807	589	475
1973	775	872	676
1974	597	1,216	726
1975	665	1,067	710
1976	743	1,004	746
1977	824	1,135	935
1978	776	1,392	1,080
1979	817	1,594	1,302
1980	775	1,732	1,342
1981 <sup>2</sup>	923	1,846	1,704
1990	1,050-1,250	3,400-4,000	3,600-5,000
Percent			
Growth rate:			
1980/70	1.5	11.8	12.8
1990/80	2-4	7-9	9-13

<sup>1</sup>SITC code 011.2.<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, trade value would be \$1.9-\$2.0 billion and the unit value would be \$2,070-\$2,080 per tonne.Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

fee, compared with \$200-\$700 per tonne for wheat flour, oilmeal, vegetable oil, and refined sugar. Also, the unit values for most of the highly processed products grew considerably faster during the 1970's than unit values for semiprocessed products.

The initially high unit values and the rapid increases in unit values over the 1970's that characterize the highly processed products reflect the considerable value added in their production. In keeping with the high prices involved, the highly processed products tend to be shipped in relatively small lots to the most affluent countries or rapidly expanding affluent elites in developing countries. The developed countries in 1980 imported over \$15 billion of highly processed products, almost half of the world total. The European Community and the United States are the largest importers, purchasing \$4.8 billion and \$4.5 billion in 1980, respectively.

As was the case for semiprocessed products, however, import growth in the most affluent developing countries has tended to outpace growth in the developed countries. The purchases of the OPEC countries, for example, increased several times faster than the purchases of the developed countries and reached \$4 billion in 1980, matching U.S. and EC purchases. Saudi Arabia, whose 1980 imports of \$1.4 billion were 23 times greater than its

1970 level, is the largest OPEC importer and the fastest growing market in the world. Each of the major highly processed product categories is treated in detail below.

*Dairy products* are the most extensively traded of the highly processed products traded. The dairy category includes milk (traded in several different forms), butter, and cheese.

Of the major dairy product trade categories, *milk* is the largest. Milk is usually traded in dry form as either powdered milk or, more frequently, nonfat dry milk but is also traded in condensed and fresh form. Nigeria is the largest importer with nearly \$300 million in imports of mainly condensed milk in 1980. It is followed in importance by Mexico, Saudi Arabia, Algeria, and Venezuela. Together, these five countries accounted for almost a quarter of the world's \$5 billion in trade. The rationale for importing in these countries and most of the other major exporters is quite simply affluence-generated demand outstripping the pace at which dairy improvement programs can expand local production. The sizable price discounts and concessional sales offered by all the major milk exporters to help dispose of their milk surpluses have also worked to expand imports by developing countries.

## Imports and Importers

The potential for growth in milk demand in the 1980's appears to be quite good. Milk is an essential part of diet upgrading, used mainly to feed children. But drinking milk during childhood results in product familiarity and the avoidance of lactose intolerance and has the potential of creating lifelong consumers in countries with little, if any, adult demand heretofore. Many countries are just now gaining the wealth needed to fund diet improvements and are very interested in quick improvements in child nutrition; milk is both relatively inexpensive and easy to integrate in child and mother nutrition programs and school lunch programs.

Partially offsetting this considerable demand growth potential in expanding imports is the strong commitment of virtually all importing countries to expand domestic milk output by focusing more of their agricultural development efforts on improving dairy herds and raising milk yields. Hence, milk trade by 1990 could be as large as \$17 billion if the trends of the 1970's continue, or as low as \$12 billion should the importing countries' production performance improve (table 21).

Almost as large as the milk trade is world trade in cheese. The value of world cheese imports quintupled during the 1970's to \$4 billion in 1980 due to a tripling in price and a doubling in volume (table 22). The European Communi-

ty and the United States were the two largest importers throughout the 1970's. But while at the beginning of the 1970's the world's largest cheese importers were all highly developed countries, several developing countries had become major markets by 1980. Iran and Saudi Arabia, for example, are now among the top 10 importers.

The rationale for importing cheese varies widely by region. Western Europe, the United States, Canada, and Australia are all large importers of cheese as well as major cheese producers. The cheese market is highly differentiated, however, and much of the import demand in these countries is demand for specialty products, often with established brand names and quality reputations and with extremely high unit values.

In the developing countries, especially the Middle Eastern countries, cheese is becoming a more popular food consumed in much the manner it was consumed in the United States in the 1950's and 1960's, as a staple rather than specialty food. It is a key item in diversifying and upgrading diets with an income elasticity of +0.5 to +1 in even the more affluent developing countries with established markets. Given their generally limited dairy operations and the strong demand for what fresh milk is available, a large part of the cheese supply in developing countries must be imported. Moreover, in many of the OPEC coun-

Table 21—World milk imports<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	2,610	304	794
1971	2,981	357	1,064
1972	2,943	429	1,263
1973	3,602	468	1,685
1974	4,082	527	2,149
1975	3,532	622	2,197
1976	4,224	555	2,345
1977	4,942	535	2,642
1978	5,297	621	3,287
1979	5,750	688	3,954
1980	5,923	829	4,910
1981 <sup>2</sup>	6,310	806	5,083
1990	9,750-11,500	1,250-1,500	12,000-17,500
Percent			
Growth rate:			
1980/1970	8.4	8.2	16.6
1990/1980	5.7	5.7	11-15

<sup>1</sup>SITC codes 022, 022.3, 022.41, 022.42, 022.43, and 022.49.

<sup>2</sup>If the impact of the 1981 appreciation of the dollar is factored out, the trade value would be \$5.7-\$5.8 billion and the unit value would be \$890-\$920 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

Table 22—World cheese imports<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	790	937	740
1971	831	1,070	889
1972	862	1,247	1,075
1973	947	1,450	1,373
1974	1,001	1,706	1,708
1975	988	2,012	1,988
1976	1,123	1,972	2,215
1977	1,196	2,149	2,570
1978	1,228	2,511	3,083
1979	1,366	2,755	3,761
1980	1,419	2,890	4,102
1981 <sup>2</sup>	1,546	2,657	4,107
1990	2,150-2,400	5,500-6,600	11,800-16,000
Percent			
Growth rate:			
1980/1970	5.9	11.3	17.2
1990/1980	4.5	7.9	11-14

<sup>1</sup>SITC code 024.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, the value of trade would be \$4.6-\$4.7 billion and the unit value would be \$2,900-\$3,000 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

tries and other newly affluent countries, cheese consumption is being encouraged through numerous government subsidies that often make cheese a low-priced source of livestock calories.

Growth in world cheese demand and imports will likely continue in the 1980's. The developed countries are likely to continue to increase their consumption of specialty cheeses with further shifts in taste and growing affluence, although the pace could slacken somewhat from the second half of the 1970's. While the grades of cheese consumed in many of the developed countries are lower than in the developing countries, their limited local production capacities and strong drive to improve diets should keep imports growing sharply. Given growth in volume near the pace of the 1970's and continued real increases in cheese prices at the pace of the 1970's, trade value could expand by 11-14 percent to \$12-\$16 billion by 1990.

Only slightly smaller than the world's trade in cheese is its trade in *butter*. Butter trade in 1980 amounted to \$3.4 billion and almost \$4 billion in 1981 despite the appreciation of the dollar, up from only \$664 million in 1970 (table 23). Like cheese, both the price and volume of butter traded increased substantially; the 1980 price of \$2,400-\$2,500 per tonne was triple the 1970 level while the quantity traded more than doubled. The Soviet Union is by far the largest buyer with \$413 million in butter imports in 1980; the European Community is the world's second largest butter importer, taking \$266 million from sources outside the EC in 1980, \$260 million of which came from New Zealand to the United Kingdom under special agreements.

While the Soviets import to alleviate chronic domestic butter shortages related both to processing capacity and quality questions, the imports of the other developed countries are generally made on the basis of quality and taste factors. The other major butter importers include Iran, Egypt, and India. In most of the developing countries, butter imports are used to supplement limited local milk production. Not only is their commercial capacity to produce butter limited, the supply of milk in many of the developing countries is often less than demanded for fluid consumption and the low quality of much of this local production makes processing into butter or cheese difficult. In such a setting, purchasing finished dairy products like cheese and butter on the world market can be more economical than importing milk for either fluid consumption or processing. Moreover, the increasingly large subsidies available from all the major dairy-exporting

countries keep world prices for virtually all the major dairy products low relative to both the exporters' and importers' fluid milk prices. This has been particularly true of butter and powdered and nonfat dry milk.

Table 23—World butter imports<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	911	729	664
1971	838	980	821
1972	704	1,223	861
1973	1,099	995	1,093
1974	994	1,318	1,310
1975	906	1,730	1,567
1976	997	1,669	1,664
1977	1,039	1,727	1,794
1978	1,025	2,236	2,292
1979	1,261	2,269	2,861
1980	1,387	2,464	3,417
1981 <sup>2</sup>	1,453	2,636	3,830
1990	1,700-2,000	4,000-4,800	6,750-9,750
Percent			
Growth rate:			
1980/1970	4.3	11.4	15.8
1990/1980	2-4	5-7	7-11

<sup>1</sup>SITC code 023.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, trade value would be \$4.2-\$4.4 billion and the unit value would be \$2,950-\$3,000 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

The future of butter imports is uncertain. Vegetable oils and margarine can substitute for butter in many cases and are much cheaper. Concern with health is also working to reduce growth in demand for butter in some developed countries. In addition, with any success, the dairy improvement programs in place in many of the middle-income countries that import heavily and the USSR will weaken the link between growth in domestic demand and imports. As a result, growth in butter trade volume in the 1980's could slow to half the pace of the 1970's.

Moreover, should the major dairy-producing countries continue to ease their domestic surplus problems through subsidized exports, butter trade prices could also be hard-pressed to keep up with the general rate of inflation. While the developed countries' milk support programs are likely to keep butter prices from increasing significantly slower than the inflation rate, butter prices are unlikely to gain in real terms as they did in the 1970's. The net result of these volume and price forces is likely to be \$7-\$9 billion in world butter trade by 1990.

## Imports and Importers

Beverage trade, not quite as large as the trade in dairy products, totaled nearly \$8 billion in 1980. Wine is by far the most widely traded beverage, with imports of over \$4.6 billion in 1980 compared with less than \$1 billion in 1970 (table 24). Like nearly all the other highly processed agricultural products, the price of wine increased substantially during the 1970's from \$262 per tonne in 1970 to \$975 per tonne in 1980. The volume traded during the same period increased by less than 30 percent, however, or at a slower pace than most of the other processed products. Over 75 percent of this wine was purchased by the five leading importers. The United States is the world's largest buyer (if intra-EC trade is excluded) with \$750 million in purchases in 1980. The Soviet Union is the second largest importer, with the EC (extra-Community trade) third. Switzerland and East Germany are also large importers. In virtually all of these countries, trade is based largely on quality and product differentiation factors; many of the major importers are also exporters. The wide price range quoted for the vintages traded suggests that the market is made up of a number of submarkets ranging from inexpensive table wines to high-quality champagnes. In some cases, climatic factors limit local fruit production capacity and increase dependence on imports to meet demand.

The wine import outlook for the 1980's will continue to depend on taste and affluence in the developed countries. Historical data on European demand suggests that per capita consumption in the United States, for example, could continue to grow as incomes expand until intake levels are 50-100 percent higher. Import growth in the most affluent countries outside the United States will continue to depend on product specialization and demand for wines with proven quality reputations. Per capita consumption in most European countries is not likely to rise much, however, from already high levels and growth in expenditures for wine and wine imports is likely to depend on rising unit cost. There is the potential for the development of a major Latin American market, but it is unlikely to be a significant part of the world total by 1990.

Should growth in import volume in the 1980's keep up with the 1970's pace and should wine prices continue to increase by 2-4 percent faster than the pace of inflation, wine trade could approach \$15 billion by 1990—more than double the 1980 level.

The fruit juice trade has grown even faster than wine trade. World juice imports rose to \$1.5 billion in 1980 from less than \$240 million in 1970. A good deal,

Table 24—World wine imports<sup>1</sup>

Year	Volume	Unit value	Value
	1,000 t	Dol/t	Mil. dol
1970	3,692	262	968
1971	3,404	314	1,068
1972	4,115	367	1,508
1973	4,526	480	2,170
1974	4,100	510	2,091
1975	4,307	525	2,262
1976	4,368	545	2,380
1977	4,321	638	2,755
1978	4,224	842	3,577
1979	5,161	889	4,586
1980	4,772	979	4,672
1981 <sup>2</sup>	5,302	821	4,352
1990	6,500-7,250	1,950-2,350	12,500-17,000
Percent			
Growth rate:			
1980/1970	2.7	12.6	15.3
1990/1980	2.5-3.5	8-10	10-14

<sup>1</sup>SITC code 112.1.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, trade value would be \$4.8-\$5 billion and the unit value would be \$920-\$930 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

although not all, of this trade was shipped as concentrates, with an average value of \$775 per tonne in 1980.

The European Community is by far the largest importer of fruit juices and accounted for over 25 percent of the total. Lagging quite far behind are Saudi Arabia, the United States, and Canada with imports of \$150-\$200 million each. Sweden, the fifth largest importer, purchased \$52 million in 1980. Together, these five importers accounted for over 80 percent of the market. The rationales underlying these countries' imports vary widely but generally relate to limited domestic capacity to produce the fruits in question or to the relatively low price of fruit concentrates available from aggressive exporters like Brazil.

Trade in fruit juices is likely to continue to grow in the 1980's, although less rapidly. Growth is likely to continue to be fastest in the orange juice component of the market and in established markets, like the EC, where consumer demand is rising with diet diversification and local production is limited. The U.S. position as a large importer will depend on the continued low price of Brazilian orange juice concentrate and fluctuations in the U.S. orange crop. But in many of the newly affluent countries with limited fruit production capacity and a growing consumer preference for fruit juices, the pace of imports should pick up. Hence, on balance, the market could reach \$3.5 billion or more by 1990 given somewhat

slower growth in import volume and price increases at about the general 6- to 7-percent rate of inflation.

Beer is the third most extensively traded beverage with world imports totaling \$1.1 billion in 1980, up from \$222 million in 1970. Lower in total value than the wine and fruit juice trade, beer trade tends to be dominated by lower priced products; import unit values in 1980, for example, averaged \$500 per tonne. Like wine, trade in beer is based largely on product differentiation, quality appeal, and taste differences—all of which tend to be reinforced by aggressive marketing campaigns, particularly in the developed countries. The United States dominates the beer import trade with almost half the total. The Soviet Union, Switzerland, Hungary, and Hong Kong are next with purchases ranging from \$34 million to \$22 million in 1980.

Although U.S. imports may continue to rise rapidly in the 1980's with more affluence and the aggressive promotion of foreign brands, the imports of the other major buyers are likely to continue to increase slowly. This heavy reliance on the U.S. market is likely to slow overall growth in the trade to 10-14 percent per year, compared with 16-17 percent in the 1970's (table 25).

The nonalcoholic soft drink trade, estimated at \$600 million in 1980, accounts for the remainder of the beverage total. While small relative to the other categories, soft

Table 25—World beer imports<sup>1</sup>

Year	Volume	Unit value	Value			
				1,000 t	Dol/t	Mil. dol
1970	1,159	192	222			
1971	1,258	203	255			
1972	1,293	221	286			
1973	1,373	255	350			
1974	1,429	281	402			
1975	1,702	327	556			
1976	1,917	334	640			
1977	1,994	367	732			
1978	1,925	414	796			
1979	2,169	454	984			
1980	2,261	501	1,133			
1981 <sup>2</sup>	2,351	456	1,072			
1990	3,600-4,400	750-950	2,750-4,100			
Growth rate:						
1980/1970	7.0	9.8	16.8			
1990/1980	5-7	5-7	10-14			

<sup>1</sup> SITC code 112.3.

<sup>2</sup>If the impact of the 1981 appreciation of the U.S. dollar is factored out, the value of trade would be \$1.2 billion and the unit value would be \$510-\$520 per tonne.

Source: *Trade Yearbook*, various 1975-1981 issues, Food and Agriculture Organization of the United Nations, Rome, Italy.

drink imports have grown appreciably faster. With a 1970 total of only \$39 million, trade over the 1970's increased fifteenfold making soft drinks the fastest growing of all HVP commodities. Saudi Arabia is the dominant importer, importing both substantial amounts of bottled water and soft drinks, both of which are priced at about the same unit value. With 1980 imports of \$144 million, Saudi Arabia is well ahead of other importers, including Hong Kong, the United States, Switzerland, and the European Community.

Saudi Arabia has thus been responsible for most of the recent growth in imports and there are many signs that Saudi imports may begin to decline as its own soft drink bottling industry expands and as water treatment programs end the need to import drinking water. As a result, the outlook for further growth is unfavorable.

The outlook for trade in vegetable preparations, mainly canned vegetables, is appreciably brighter. World imports grew from \$624 million in 1970 to over \$2.6 billion in 1980, an increase of nearly 400 percent. While trade volume nearly doubled, unit values almost tripled. Moreover, while trade in most LVP's and many other HVP's declined in 1980, trade in vegetable preparations continued to expand, albeit at a somewhat slower pace.

Trade is still heavily concentrated in the affluent countries and the same five leading importers accounted for nearly 85 percent of trade in both 1970 and 1980. The European Community is the largest importer with 1980 imports valued at \$626 million; the United States is the second largest importer with purchases of \$373 million in 1980. Japan, Hong Kong, and Canada are the next largest importers while Saudi Arabia, with 1980 imports of \$80 million, places sixth.

The seasonality of vegetable production, demand for exotic vegetables, as well as quality differences and perishability have tended to ensure that at least part of this demand for vegetable preparations associated with diet improvements is translated into trade. In the developed countries that dominate the market, vegetable preparations play somewhat the same role as livestock products in diet diversification in the lower income countries. Prepared vegetables are imported for a broad range of reasons. In the increasingly affluent developing countries—such as the Middle Eastern OPEC countries—imports are often the only source of supply. With refrigeration and other processing facilities lacking and production limited or highly seasonal, local vegetable output often cannot meet rapidly growing demand. Given the

perishability of most of the vegetable products involved, trade generally takes place in the form of processed products.

Over the next decade, the vegetable imports of the developing countries should continue to grow at a relatively rapid rate as diet upgrading and diversification continue. Iraq, Algeria, Mexico, and Egypt in particular all have potential for becoming sizable importers. Trade in the developed countries is unlikely to grow significantly in volume but the large labor input involved in producing processed vegetables seems likely to keep their unit prices increasing near the general inflation rate. As a result, imports could reach \$5.5-\$8 billion by 1990.

Trade in cereal preparations reached nearly \$2.4 billion in 1980 compared with \$358 million in 1970. Half of the 1980 trade moved within the EC. Bakery products made up almost half with the remainder being largely breakfast cereals and macaroni. Although there was substantial growth in the volume of cereal preparations traded, well over half of the growth in trade was due to increases in the price of cereal preparations from less than \$100 per tonne to \$256 per tonne in 1980.

Japan is the largest importer of cereal preparations with purchases of \$236 million in 1980, nearly 10 times their 1970 level, made up largely of malt, bread, biscuits, and macaroni. The United States, the second largest importer, increased imports from \$40 million in 1970 to almost \$200 million in 1980; U.S. imports have generally been made to fill specialty demand for bakery products and pasta or to take advantage of cheap—occasionally subsidized—products from Europe. The European Community, the third largest importer, purchased from non-EC sources mainly bakery products and breakfast cereals with a 1980 value of \$132 million. Saudi Arabia, the only developing country among the top five importers, purchased \$119 million of cereal preparations made up largely of bakery products.

Imports of cereal preparations have been largely a function of convenience and quality as well as specialty appeal. Further import growth in the developed countries that have dominated trade to date, however, is likely to slow as the market becomes saturated. Rising affluence in the developing countries, however, is likely to generate growth in import demand sufficient to keep trade growing near the pace of the 1970's and to increase the value of world trade to possibly \$5-\$6 billion by 1990.

While difficult to measure accurately, cigarette imports appear to be expanding rapidly. Complete trade informa-

tion is not available but the top 35 importers reported imports of over \$2.5 billion in 1980. But information on the duty free trade in Netherlands and Belgium where much of the trade is transshipped suggests trade in excess of \$3 billion. If Belgium's duty-free trade is excluded, Saudi Arabia is the world's largest cigarette importer with \$220 million in purchases in 1980. Hong Kong follows at \$117 million, while the United Arab Emirates ranks third with imports of \$83 million. Spain, Kuwait, and Iraq import only slightly less. The rationale for importing cigarettes varies somewhat but generally relates to climatic problems with growing quality tobaccos, limits on local tobacco output, and constraints on local processing capacity.

The potential for increases in cigarette trade in the 1980's is considerable. Demand appears to be highly income elastic and the same basic forces at play in the 1970's should translate demand into imports. The Middle East will continue to be the most dynamic market due to the strength of local demand and virtually nonexistent local production capacity. In Eastern Europe, now being largely supplied through Rotterdam and Antwerp, imports are likely to continue to expand if incomes rise fast enough to allow consumers to substitute quality imported cigarettes for the low-quality cigarettes produced locally. Many African countries, like Nigeria, also have considerable market potential as well, although imports currently are low. Slowed growth in imports by several of the developed countries with declining per capita cigarette consumption, however, should keep trade expanding somewhat below the pace of the 1970's. In all, cigarette trade could reach \$6-\$9 billion by 1990.

Canned fruit trade is rising rapidly and is nearing the level of trade in vegetable preparations. The rationale underlying canned fruit imports also parallels the rationale for the trade in vegetable preparations. Canned fruits are convenient, keep for long periods of time, and are easily transported, particularly in comparison with highly perishable fresh fruits. Imports of canned fruit rose from less than \$450 million in 1970 to over \$1.6 billion in 1980 with most of the increase due to gains in unit prices; the volume of canned fruit moving to most countries other than the United States actually remained fairly stable.

Canned fruit imports are confined to an unusual extent to the affluent developed countries, with only limited shipments moving to Hong Kong and Singapore among the developing countries. The European Community is by far the largest importer with purchases from non-EC sources valued at \$632 million in 1980. Far behind the

European Community in the value of imports is the United States with 1980 purchases of \$220 million; however, U.S. imports have grown extremely rapidly from less than \$1 million in 1970. Much lower still than these two importers are Japan at \$85 million, Canada at \$72 million, and Singapore at \$47 million.

Trade flows over the 1980's are not likely to change dramatically from the 1970's. Other than the United States, there has been very little growth in the volume of canned fruit traded; markets in most of the developed countries appear to be saturated and growth in their imports in the 1980's will depend on further unit price increases rather than any significant gain in quantity. Equally important, EC policies and improvements in transportation and marketing have made it possible to substitute fresh products for a considerably longer period during the year.

However, with increased affluence in the middle-income countries, growth in developing country import markets could more than compensate for slowed growth in the developed countries. In OPEC countries in particular, there appears to be considerable growth potential due to efforts to supplement the diets of the most affluent classes with prepared fruits. Should this middle-income market emerge, trade could rise to \$3.5-\$4.5 billion by 1990.

Imports of *instant coffee*, valued in 1980 at over \$9,300 per tonne, are nearly as valuable as cigarettes on a unit value basis. World trade in instant coffee in 1980, including intra-EC trade, was valued at \$1 billion, up from \$146 million in 1970. The United States is the largest importer of instant coffee with imports of over \$250 million in 1980. Although this is far less than the \$4 billion spent on imports of coffee beans, trade in instant coffee has grown appreciably faster. The European Community, the second largest importer, purchased over \$160 million in 1980 from non-EC sources, again far below their coffee bean imports but substantially more than their \$19 million in purchases in 1970. The United States and the Community along with Japan, Canada, and Sweden accounted for 85 percent of the world's trade in 1980 with their imports over six times 1970 levels.

Instant coffee is an increasingly popular convenience drink. In all the major importing countries, however, much more instant coffee is produced domestically than is imported. Imports appear to be made on the basis of quality differences and taste factors as well as specialty appeal. Many exporters of instant coffee actually import

beans for processing and concentrate on producing a specialty product. Given this specialty factor, imports of instant coffee can be expected to continue to rise in the developed countries with increased affluence and aggressive exporter marketing. Although sales are presently very small, there also appear to be opportunities for increased shipments to the affluent developing countries, particularly those with a large tourist trade.

*Chocolate* trade reached \$1.7 billion in 1980, compared with a 1970 level of less than \$250 million. This increase was due largely to gains in the price of chocolate, up from \$800 per tonne in 1970 to over \$3,000 per tonne in 1980. The proportion of chocolate production traded is quite small; the major consuming countries generally import cocoa or semiprocessed cocoa products for final processing. The chocolate trade depends largely on product specialization and quality. The European Community, with imports in excess of \$1 billion, is the largest importer. The United States is the second largest importer at \$228 million followed by Japan, Austria, and Sweden.

While most trade in chocolate is currently confined to the developed countries, the most affluent developing countries are becoming important importers of chocolate. In the future, these countries could become even larger importers as chocolate demand increases and as the appeal of specialty products—particularly European brands—translates consumer interest into import demand. This possibility, combined with the continued growth in the developed country market, should lead to substantial increases in trade, possibly to \$3.5-\$4.5 billion by 1990.

*Sugar candy* trade, like chocolate, is confined mainly to the developed countries. With world imports of slightly less than \$750 million in 1980, sugar candy sold for \$1,644 per tonne. The United States imported nearly 25 percent of the total in 1980 as a very small specialty supplement to domestic production. Sweden is the second largest importer with \$34 million of purchases in 1980. Saudi Arabia, the only developing country among the top five importers, purchased almost as much as Sweden, as did Canada and Switzerland. Although trade in this commodity increased by 500 percent over the 1970's, it is at present still relatively small. If trade continues to grow at the high rate of the 1970's, however, imports could reach \$1.6-\$2.0 billion by 1990.

**High-Value Bulk Items.** In addition to the semiprocessed and highly processed products noted above, a number of other agricultural commodities with high unit values are

traded but with little or no processing. These products, referred to here as high-value bulk items, are not as widely traded as the semiprocessed or highly processed goods, but their value reached almost \$25 billion in 1980. Trade in high-value bulk items is concentrated in three categories—fresh and dried fruit, fresh and dried vegetables, and eggs. Not surprisingly, the developed countries also dominate trade in these high-value bulk items but imports are growing rapidly throughout the world. Trade in the high-value bulk items is shaped to a far greater extent by geography and market propensity. The perishability of the fresh products involved and the high cost of moving dried products give the trade many of the characteristics of border trade rather than global trade.

World trade in *fresh and dried fruit* in 1980 amounted to \$14.5 billion, up from \$2.6 billion in 1970. Oranges were the most valuable of the fruits at \$2.3 billion, followed by bananas at \$2.1 billion and apples at \$1.7 billion. Trade in lemons, grapefruit, grapes, raisins, pears, and peaches were all valued at approximately \$500 million. Over 25 percent (\$4.4 billion) of the fruits were imported by the European Community, the world's largest importer from sources outside the EC. The United States, far behind with imports of only \$1.1 billion, was the second largest importer. Japan and Canada imported almost \$600 million and \$550 million, respectively, and the Soviet Union was the fifth largest importer with 1980 purchases of \$546 million. Together, these top five importers accounted for three-fifths of the total trade in unprocessed fruits.

Fresh and dried fruits are usually imported out of season or to supply a product not grown locally or grown only in small supply. Demand appears to be particularly sensitive to income growth and affluence; despite the relative affluence of even the European market, per capita usage continues to grow, suggesting that even here the market is not yet saturated. In many other developed countries, per capita fruit consumption is also on the rise, helped at least in part by health considerations.

The increasingly affluent OPEC countries also are just beginning to demonstrate import potential. Eastern Europe, especially the Soviet Union, could also see tremendous growth if policies become more consumer oriented after the current retrenchment is over. Together, these countries—all faced with limited local production capacity—could keep world imports growing faster than the 14-16 percent of the 1970's. By 1990, world imports could reach \$35-\$40 billion due to both price and quantity gains.

The trade in *fresh and dried vegetables* is also growing very rapidly, up from \$1.3 billion in 1970 to \$8.1 billion in 1980. Most of this growth is a result of gains in the price of vegetables, up from \$136 per tonne in 1970 to \$425 per tonne in 1980. The actual volume shipped increased by less than 2 percent per year over the decade. The rationale for imports is generally related to affluence-generated pressure for diet diversification and to limits on local production due either to climate or seasonality.

The bulk of the trade is made up of fresh vegetables including potatoes, tomatoes, and onions—all valued at between \$500 million and \$1.5 billion. Pulses also make up a large portion of world vegetable trade, increasing from only \$323 million in 1970 to over \$1.5 billion in 1980. This fivefold gain was due to large increases in price—up from \$175 per tonne in 1970 to \$540 per tonne in 1980. But the quantity shipped also increased substantially as well—over 50 percent from 1.8 million tonnes to 2.8 million tonnes.

By far the largest importer of vegetables is the European Community with 1980 imports of \$2.5 billion from sources outside the EC. These 1980 imports were five times their 1970 level. Following the Community in importance as importers were the United States, Japan, and Canada.

Pulse trade, the fastest growing part of vegetable trade in the past, is likely to remain the most rapidly increasing area in the future, especially in developing countries. Already, three of the top five pulse importers are developing countries (Mexico, Algeria, and Venezuela) who, with their oil wealth and limited capacity to produce pulses, are likely to continue to expand their imports rapidly. Great potential demand also exists in Iraq, Egypt, and possibly Morocco. India, already a sizable importer, could become an even larger buyer if the government moves to keep pulse supplies up to demand levels without sharp price increases. Nigeria, another large pulse consumer, could also potentially become a sizable importer depending on the success of its current agricultural plans.

Trade in other major vegetables should also increase substantially as better transport and improved varieties that stay fresh longer allow greater shipping of vegetables to fill year-round demand. Most imports are likely to continue to be made by the developed countries, as they still generally have the highest incomes, best shipping and storage facilities, and the strongest demand for year-round supplies.

The OPEC countries could also become large importers, furthering trade; Algeria is already one of the world's largest potato importers, while Saudi Arabia, Iraq, and Kuwait are expanding markets for fresh vegetables of all types. The centrally planned countries, together importing about \$280 million of vegetables at present, could also become large seasonal importers depending on their policies. Consequently, trade in vegetables by 1990 could reach \$20-\$25 billion.

Trade in eggs reached \$1 billion in 1980, over four times the 1970 level. The quantity of eggs traded increased from 400,000 tonnes to almost 750,000 tonnes while unit prices rose from \$540 per tonne to almost \$1,400 per tonne over the same period. Eggs, like pulses, are a new boom commodity with imports by the developing countries growing at extremely rapid rates. If intra-EC trade is excluded, Japan and Hong Kong are the world's largest importers with egg purchases of \$76 million each in 1980. Algeria purchased \$62 million while the Soviet Union and Iran purchased \$39 million and \$36 million in eggs, respectively. But together, the top five importers only accounted for 28 percent of the world's trade, meaning that other countries are also substantial markets.

Egg consumption in many countries is still very low in comparison with that in the United States. Eggs are often too expensive to be an important part of the diet in many developing countries, but new wealth has encouraged growth in consumption. Since egg production outside the developed countries is very limited, increased demand among affluent consumers frequently translates directly into increased imports. In addition to OPEC and other increasingly affluent developing countries, the Soviet Union continues to be unable to meet its own needs and imports in excess of \$40 million per year. Consequently, opportunities for further growth in egg imports to diversify and upgrade diets are tremendous; trade in 1990 could reach \$2.5 billion or more.

### **The Country Composition of HVP Imports**

Much as the commodity composition of HVP trade in the 1980's is likely to follow the general trends of the 1970's, the country composition of the trade is likely to reflect forces already at play. Semiprocessed products have been the most widely traded HVP products and the developed countries have been the largest importers. But, while these commodity and country groupings should continue to dominate in the 1980's, HVP trade appears likely to be shaped to an increasing extent by trade in the highly processed and high-value bulk products destined for the middle-income countries. As noted above, trade in highly

processed and high-value bulk items is growing faster than the semiprocessed trade, and currently nearly equals the value of trade in semiprocessed goods.

Equally important, a number of developing and centrally planned countries are expanding their HVP imports at rates several times faster than the developed countries. The developed countries almost totally dominate trade in many products, and a small percentage increase in their imports can involve several billion dollars. But the potential for even a small percentage gain in their import demand is increasingly limited. Generally, diets in the developed countries are already upgraded and diversified; per capita consumption levels for many HVP products are approaching saturation levels. Also, virtually all the developed countries have extensive processing sectors of their own and are anxious to expand output behind a wide range of trade barriers to HVP imports. Hence, as the decade progresses, HVP demand and trade momentum could shift decidedly toward the developing countries as their faster import growth rates generate comparable or larger increases in HVP trade relative to the slower rates of growth in the developed countries.

The *East Asian* countries including Hong Kong, Singapore, South Korea, and Taiwan are promising markets. Singapore and Hong Kong already import heavily and rank behind the United Arab Emirates as the second and third largest per capita HVP importers. Having almost no indigenous local HVP industry to draw on or to protect, any growth in HVP demand generated by income and population growth translates into import demand. Taiwan and South Korea, on the other hand, import relatively few HVP products but are fast reaching the limit of their capacity to produce them. Given their current income and per capita HVP consumption levels, diet upgrading and diversification pressures should accelerate and increase pressure to import HVP's. A major factor possibly inhibiting growth in high-value agricultural imports, however, will be both countries' numerous trade barriers and limited foreign exchange.

An even more promising market for growth in HVP trade is the *OPEC* countries, especially its Middle Eastern members. Most of these countries have HVP trade policies in place that actually encourage purchases abroad. For the most part, these countries have no significant domestic processing industries to protect and import the bulk of their HVP needs. They also face tremendous income growth, rapid urbanization, lagging domestic agricultural production, and an interest in western-style foods. To meet the resulting increase in demand, many of these countries actually subsidize imports of high-value

products, especially meats, dairy products, and vegetable oils. Saudi Arabia has thus become one of the world's largest importers of high-value products with 1980 imports of nearly \$3 billion. Iraq and Iran could well approach this size over the next decade after recovery from their current war. Nigeria and Venezuela are already large importers of many commodities and the potential for further increases, particularly at mid-decade and beyond, is quite good.

While not nearly as dynamic nor potentially as large as the OPEC market, the *centrally planned countries* are also potential growth markets for HVP imports—but only after their current financial pinch eases, possibly toward the mid-1980's and beyond. The Soviet Union in 1980 imported over \$2.5 billion in high-value products, Poland imported nearly as much, and East Germany and Yugo-

slavia both imported over \$1 billion. Most of the HVP's imported by these countries have been semiprocessed goods, but growing amounts of highly processed and high-value bulk items are being imported, especially by the Soviet Union.

Further increases in these countries will also depend on trade policy decisions by their governments. If they decide that high-quality food in abundant supply and at affordable prices will help ease consumer dissatisfaction, imports by the centrally planned countries could boom. Semiprocessed goods, dairy products, cigarettes, and fruits could all become major imports.

These three groups of countries are by no means the only countries that could experience rapid increases in import demand for high-value products; many lower in-

Table 26—World imports of high-value agricultural products, with projections

Item	SITC Code	1970			1980			1990		
		Volume	Unit value	Value	Volume	Unit value	Value	Volume	Unit value	Value
		1,000 t	Dol/t	Mil. dol	1,000 t	Dol/t	Mil. dol	1,000 t	Dol/t	Mil. dol
<b>Semiprocessed products:</b>										
Roasted coffee	071.1	3,278	945	3,089	3,717	3,362	12,496	4,000-4,100	5,300-6,800	21,000-28,000
Beef	011.1	2,088	910	1,899	3,404	2,582	8,792	5,050-5,550	4,000-4,800	20,000-26,000
Vegetable oils	424-432	5,153	295	1,519	12,113	656	7,946	17,000-20,500	1,000-1,200	17,000-25,000
Vegetable meals	081.3-41	11,057	84	923	25,802	212	5,443	42,000-50,000	360-435	15,500-21,500
Refined sugar	061.2	4,711	118	555	8,513	576	4,900	11,500-14,000	875-1,050	10,000-14,500
Poultry	011.4	502	671	337	1,453	1,465	2,128	2,900-3,400	2,100-2,500	6,000-8,500
Wheat flour	046	5,035	86	433	6,783	283	1,921	8,500-9,500	435-525	3,700-5,000
Pork	011.3-012.1	1,040	908	944	1,816	2,372	4,307	2,700-3,300	4,200-5,000	11,500-16,500
Sheepmeat	011.2	723	552	399	775	1,732	1,342	1,050-1,250	3,400-4,000	3,600-5,000
<b>Highly processed products:</b>										
Milk	022	2,610	304	794	5,923	829	4,910	9,750-11,500	1,250-1,500	12,000-17,500
Cheese	024	790	937	740	1,419	2,890	4,102	2,150-2,400	5,500-6,600	11,800-16,000
Butter	023	911	729	664	1,387	2,464	3,417	1,700-2,000	4,000-4,800	6,750-9,750
Wine	112.1	3,692	262	968	4,772	975	4,672	6,500-7,250	1,950-2,350	12,500-17,000
Fruit juice	053.5	na	na	238	na	na	1,545	na	na	3,000-4,000
Beer	112.3	1,159	192	222	2,261	501	1,133	3,600-4,400	750-950	2,750-4,100
Nonalcoholic bev.	111.0	na	na	39	na	na	602	na	na	800-1,000
Vegetable preps.	055	na	na	624	na	na	2,625	na	na	5,550-8,000
Cereal preps.	048	na	na	358	na	na	2,400	na	na	5,000-6,000
Cigarettes	122.2	na	na	253	na	na	2,500	na	na	6,500-9,000
Canned fruit	053.9	na	na	423	na	na	1,600	na	na	3,500-4,500
Instant coffee	071.3	na	na	146	na	na	990	na	na	1,750-2,500
Chocolate	073	na	na	245	na	na	1,700	na	na	3,500-4,500
Sugar candy trade	062	na	na	137	na	na	750	na	na	1,600-2,000
<b>High-value bulk products:</b>										
Fresh/dried fruit	051	na	na	2,600	na	na	14,500	na	na	35,000-40,000
Fresh/dried veggies	054	na	na	1,300	na	na	8,100	na	na	20,000-25,000
Eggs	025	na	na	250	na	na	1,000	na	na	2,250-2,750
Total above	--	na	na	20,099	na	na	105,821	na	na	242,500-323,600
Total	--	na	na	25,000	na	na	120,000	na	na	290,000-390,000

na = not available.

-- = not applicable.

come developed countries and other moderately affluent developing countries are also beginning to import substantial amounts of high-value products to meet the demands of their upper classes and emerging middle classes. Spain, for example, imported \$1.5 billion in high-value products in 1980; with its emerging middle class and large tourist trade, it should become a much larger importer.

Egypt and Mexico, on the other hand, are just beginning to develop and their HVP import demand, fueled in part by income growth and in part by limited domestic HVP production and processing facilities, is potentially quite large. While both face financial problems over the next 2-5 years, their economies should strengthen over the long term after adjustments are made to ease their current problems. Both are experiencing rapid urbaniza-

tion and have growing, western-oriented middle classes. Equally important, both of these countries have very limited means of meeting rising HVP demand locally. While the affluent in these countries are nowhere near a majority, they have the resources to import and consume large amounts of high-value products. The Caribbean, too, is becoming a large market for HVP imports—over \$1 billion in 1980—in large part because of tourism. Many of the poorer countries with large populations are also potentially large markets for semiprocessed goods, like cooking oils; contrary to the LVP market where substantial trade increases depend on large gains in volume, the relatively small increases in HVP imports made by the countries could generate billions of dollars in trade. Demand for highly processed and high-value unprocessed products for the wealthy classes in these large low-income countries is also a potential source of trade gains.

## HVP EXPORTS AND EXPORTERS

Growth in the supplies of HVP's available on the world market is likely to keep pace with or outdistance growth in import demand over the 1980's. Despite the increased pressure many of the developing exporters are likely to face to keep more of their HVP output at home for domestic use, the foreign exchange return on selling high-value products abroad should be strong enough to keep export availabilities expanding rapidly. The employment and economic activity

involved in exporting HVP's are also likely to be strong enough to maintain the developed exporters' interest in the market. Hence, total export availabilities could expand faster than the dampened import demand described earlier in this report.

The end result of this balance is likely to be keener competition for markets, with many exporters supplementing comparative advantages in producing HVP inputs

or processing with expanded trade promotion programs. Should this situation materialize, it would alter the trade setting significantly from the more balanced growth in import demand and export supplies experienced in the 1970's.

World exports of high-value farm products increased by 17-18 percent per year over the 1970's to reach \$120 billion in 1980. This rapidly expanding market was dominated by a few exporters including the European Community, the United States, Brazil, Spain, Australia, New Zealand, Canada, Argentina, Mexico, India, and Greece. Even within this small group, only the EC, the United States, and Brazil exported more than \$3 billion in HVP's in 1980 or shipped more than a few selected products to more than a few importing countries. Many of these countries' commanding positions in the market relate not only to HVP production or processing advantages and geography but to aggressive export marketing programs as well that often include large direct export subsidies.

Considerable investment has been made in many of these countries in expanding HVP processing and transport facilities to service the market. The investments made in the late 1970's in particular were large enough to make continued growth in the HVP trade important—whether measured in terms of gross national product, employment, foreign exchange earnings, or government revenues. As a result, many of the exporters are likely to respond to the slowed growth in import demand over the 1980's forecast in this report by increasing efforts to expand their market shares and to protect their domestic HVP markets from import penetration.

The marked slowdown in HVP exports experienced so far in the 1980's as a result of worldwide recession should prove temporary and growth later in the decade should recover significantly. But even this temporary slowdown has sparked increased competition among importers that could prove indicative of the competition likely on a regular basis later in the 1980's.

The following materials identify the general factors at play in the export market and analyze the programs in place in the individual exporting countries—particularly the programs used to promote sales abroad. The materials also speculate on the export levels likely in the 1980's and the form increased competition is likely to take.

### Export Patterns: Past and Future

The HVP trade patterns of the 1970's suggest exporters fall into two categories (table 27). Among the countries in the first group are the United States and the European Community. Both are large, diversified exporters with sophisticated HVP processing and marketing systems functioning primarily to serve domestic markets. Export markets are simply extensions of these domestic markets and often account for 10 percent or less of total output.

These countries are by far the largest sources of HVP exports and supplied more than 60 percent of the world

**Table 27—Trade in high-value products, major exporters and import markets, 1980<sup>1</sup>**

Exporter	EC-9	United States	Japan	Canada	Switzerland
EC-9:					
Value (mil. dol)	33,612	2,235	651	433	1,134
Products	Meats	Beverages	Beverages	Beverages	Beverages
	Beverages	Cheese and curd	Meats	Cheese and curd	Fresh fruit
	Fresh vegs.	Coffee	Cereal preps.	Chocolate and prods.	Fresh vegs.
United States:					
Value (mil. dol)	3,318	--	1,124	1,127	75
Products	Veg. oilmeals	--	Meats	Fresh fruit	Fresh fruit
	Food waste and	--	Fresh fruit	Fresh vegs.	Meats
	feed, n.e.s.		Food waste and feed	Preserved fruit	Preserved fruit
	Fresh fruit	--			
Brazil (1979):					
Value (mil. dol)	2,110	1,073	175	56	49
Products	Veg. oilmeals	Coffee	Coffee	Preserved fruit	Coffee
	Coffee	Cocoa	Meats	Coffee	Meats
	Cocoa	Preserved fruit	Cocoa	Cocoa	
Spain:					
Value (mil. dol)	1,959	180	26	40	98
Products	Fresh fruit	Preserved vegs.	Meats	Coffee	Fresh fruit
	Fresh vegs.	Beverages	Beverages	Preserved vegs.	Beverages
	Beverages	Vegetable oils	Preserved fruit	Beverages	Fresh vegs.
Australia:					
Value (mil. dol)	197	857	522	103	2
Products	Meats	Meats	Meats	Meat	Preserved fruit
	Dried fruit	Cheese and curd	Cereal preps.	Dried fruit	
	Preserved fruit	Beverages	Cheese and curd	Preserved fruit	
New Zealand:					
Value (mil. dol)	637	439	163	88	5
Products	Meats	Meats	Meats	Meats	Meats
	Butter	Cheese	Cheese		
	Cheese	Fresh fruit	Misc. food preps.		
	and nuts				
Canada:					
Value (mil. dol)	281	868	177	--	6
Products	Meats	Beverages	Meats	--	Food waste and
	Fresh vegs.	Meats	Animal fats and oils		feed
	Veg. oilmeals	Cereal preps.	Food waste and feed		Prepared vegs.
Argentina (1979):					
Value (mil. dol)	763	52	41	6	19
Products	Meats	Preserved fruit	Meats	Cheese	Meats
	Veg. oilmeals	Cheese and curd	Meat/fishmeal		
	Veg. oils	Tea and mate	fodder		
Mexico (1979):					
Value (mil. dol)	69	806	8	9	38
Products	Coffee	Coffee	Coffee	Preserved fruit	Coffee
	Preserved fruit	Fresh vegs.			
	Fresh vegs.	Dried fruit			
Greece:					
Value (mil. dol)	458	23	--	6	5
Products	Fresh fruit	Preserved vegs.	--	Preserved vegs.	Fresh vegs.
	Dried fruit	Beverages			
	Preserved fruit	Dried fruit			

See footnotes at end of table.

Continued—

Table 27—Trade in high-value products, major exporters and import markets, 1980<sup>1</sup>—Continued

Exporter	Sweden	Hong Kong	Spain	Austria	Singapore	OPEC
EC-9:						
Value (mil. dol.)	601	174	382	606	115	4,648
Products	Beverages	Beverages	Beverages	Vegetable oilmeals	Beverages	Refined sugar
	Fresh veggies.	Cigarettes	Milk and cream	Fresh fruit	Cigarettes	Milk and cream
	Cereal preps.	Cereal preps.	Misc. food preps.		Cereal preps.	meats
United States:						
Value (mil. dol.)	85	309	161	10	112	1,049
Products	Fresh fruit	Cigarettes	Cigarettes	Fresh fruit	Meats	Cigarettes
	Dried fruit	Fresh fruit	Fresh fruit	Preserved fruit	Cigarettes	Veg. oilmeals
	Preserved fruits	Meats	Animal fats and oils	Dried fruit	Fresh fruit	
Brazil (1979):						
Value (mil. dol.)	139	4	185	19	47	224
Products	Coffee	--	Coffee	Coffee	Veg. oilmeal	Refined sugar
	Preserved fruit	Cocoa	Cocoa			Meats
			Vegetable oilmeals			Vegetable oils
Spain:						
Value (mil. dol.)	48	1	--	20	1	317
Products	Fresh fruit	--	--	Fresh fruit	Vegetable oil	Vegetable oils
	Fresh vegetables			Preserved fruit	Wheat preps.	Wheat preps.
	Beverages			Fresh vegetables	Eggs	Eggs
Australia:						
Value (mil. dol.)	22	60	2	--	78	304
Products	Meats	Meats	Meats	--	Meat	Meats
	Preserved fruit	Milk and cream			Fresh fruit	Cheese and curd
		Cereal preps.			Fresh vegetables	Milk and cream
New Zealand:						
Value (mil. dol.)	3	21	2	1	42	283
Products	Fresh fruit and nuts	Meats	--	--	Milk and cream	Meats
	Meats	Butter			Meats	Milk and cream
					Butter	Butter
Canada:						
Value (mil. dol.)	5	17	9	--	2	75
Products	Prepared veggies.	Fresh fruit	Vegetable oil	Milk and cream	Vegetable oils	Milk and cream
	Meats	Preserved veggies.	Preserved veggies.			Fresh vegetables
						Misc. food preps.
Argentina (1979):						
Value (mil. dol.)	11	4	75	7	1	137
Products	Fresh fruit	Meats	Meats, Vegetable oils	Meat	--	Vegetable oils
			Fresh veggies.			Meats
						Fresh veggies.
Mexico (1979):						
Value (mil. dol.)	4	--	39	1	--	5
Products	Preserved fruit	--	Fresh veggies.	--	--	Fresh veggies.
			Coffee			
			Cocoa			
Greece:						
Value (mil. dol.)	3	--	--	11	--	151
Products	Beverages	--	--	Fresh fruit	--	Presvd. veggies.
						Food waste and
						Feed
						Wheat flour & prep.

See footnotes at end of table.

Continued—

Table 27—Trade in high-value products, major exporters and import markets, 1980<sup>1</sup>—Continued

Exporter	Mexico	Egypt	India	USSR	Pakistan	Total
EC-9:						
Value (mil. dol) Products	170 Milk and cream Beverages Cheese and curd	556 Meats Butter Refined sugar	131 Butter Milk and cream Vegetable oils	1,172 Refined sugar Meats Butter	45 Milk and cream Refined sugar Butter	19,875 (Extra EC) Beverages Milk and cream Refined sugar
United States:						
Value (mil. dol) Products	611 Fresh veggies. Veg. oilmeals Milk and cream	400 Vegetable oils Animal fats & oils, Wheat flour	305 Vegetable oils Cereal preps.	59 Animal fats & oil Fresh fruit Fresh veggies.	128 Vegetable oils Animal fats & oils	11,378 Vegetable oilmeals Meats Fresh fruit
Brazil (1979):						
Value (mil. dol) Products	4 --	22 Vegetable oils	149 Vegetable oils	155 Cocoa Vegetable oils	60 Vegetable oils	5,771 Coffee Cocoa Vegetable oilmeal
Spain:						
Value (mil. dol) Products	14 Beverages	4 Preserved veggies.	6 Vegetable oils	63 Beverages Veg. oilmeals	-- --	3,295 Fresh fruit Vegetable oils Beverages
Australia:						
Value (mil. dol) Products	1 Butter	12 Meats	13 --	71 Meats Animal fats and oils	4 --	2,777 Meats Cereal preps. Milk and cream
New Zealand:						
Value (mil. dol) Products	28 Butter Milk and cream	8 Meat	5 Animal fats & oils	123 Meat Butter Milk and cream	3 Milk and cream	2,291 Meats Butter Milk and cream
Canada:						
Value (mil. dol) Products	49 Milk and cream	9 Wheat preps. Fresh veggies.	69 Vegetable oils	-- --	-- --	1,851 Meats Beverages Fresh veggies.
Argentina (1979):						
Value (mil. dol) Products	4 Cheese Meats	20 Refined sugar Vegetable oils	20 Vegetable oils	5 Beverages	-- --	1,773 Meats Vegetable oilmeals Vegetable oils
Mexico (1979):						
Value (mil. dol) Products	-- --	-- --	-- --	-- --	-- --	1,049 Coffee Fresh vegetables Preserved fruit
Greece:						
Value (mil. dol) Products	-- Chocolate prods. Fresh fruit	15 --	-- --	28 Fresh fruit	-- --	1,041 Fresh fruit Dried fruit Preserved veggies.

-- = Negligible or not applicable.

n.e.s. = Not elsewhere specified.

Note: Products listed are the top commodity groups in order of value.

<sup>1</sup>Data are for calendar year 1980 except in the case of Brazil (1979), Argentina (1979), and Mexico (1979).

market in 1980. The United States and the EC are the largest exporters of virtually all of the HVP groups studied in this report. Moreover, these countries are not only the largest HVP exporters; they are also leading HVP importers and, in the EC's case, buy more high-value products abroad than they export.

The second category is made up of smaller traders that for reasons of limited market size, location, resource endowment, or low per capita income specialize in producing and exporting a few HVP products. The products traded are generally those in which the country has a cost advantage in producing a key input or processing a particular product or a *market position* consciously developed using production subsidies, aggressive market promotion, or export rebates.

Countries in this second category tend to have less of a global market for their products and to be relatively small HVP importers. New Zealand and Mexico are typical; they both depend heavily on a natural comparative advantage in production of a few key farm products. New Zealand specializes in the production and export of forage-fed livestock products and markets over two-thirds of its HVP exports in the EC, the United States, and a few key OPEC countries. Mexico exports mainly coffee, fresh vegetables, and preserved fruit to the United States, EC, and Spain. Brazil, on the other hand, depends both on a natural advantage in the production of oilseeds and extensive domestic and trade programs for its position in the export market.

These same broad HVP exporter patterns, as well as the commodity flows they shaped, appear likely to continue in the 1980's. The EC and the United States are likely to continue to dominate the export market but with significant sales made by possibly 10-12 smaller suppliers. In general, the semiprocessed and high-value unprocessed products are likely to continue to reflect their suppliers' natural resource endowment, climate, or seasonal advantages. For example, cocoa and coffee products from Brazil, dairy and meat products from New Zealand and Australia, and fresh vegetables from Mexico will continue to characterize their trade through the 1980's. Trade in the highly processed products is more difficult to forecast and depends on the development of local processing capacity, domestic demand, and commercial import capacity in the middle-income countries.

Balance of payment and exchange rate developments have determined, and are likely to continue to determine, the extent to which countries like Brazil and Argentina will find it profitable to invest large sums in local curren-

cies to promote the sale of items such as vegetable oils and meals and poultry products abroad for hard currencies. Trade patterns are also likely to continue to be set to a large extent by geography. The EC's close proximity to the Eastern European market and the North African/ Middle Eastern market as well as U.S. proximity to the Canadian, Mexican, and Caribbean markets will continue to be important determinants of trade.

But the trade and domestic farm policies in place in the HVP exporting countries are likely to be the major determinant of the pattern, volume, and product composition of trade in the 1980's. Well over two-thirds of the HVP's currently moving on the world market move with help of some form of domestic or export subsidization. Moreover, given the often short-term or purely domestic factors that determine whether or not an HVP program is implemented and how it is managed, these HVP trade and farm policies have been and are likely to continue to be a major source of instability.

In addition to introducing an element of uncertainty, this large-scale policy intervention works to weaken the market's ability to smooth out fluctuations in supply and demand with a minimum of price disruption. The export subsidies used most extensively send the wrong price signals to producers and consumers in both importing and exporting countries. Subsidies tend initially to reduce prices below the levels that basic supply and demand factors would set and encourage growth in demand in importing countries while discouraging growth in production and investment in exporting countries without subsidies. When international prices are strong, the main effect of subsidies is to lower the volume of products sold by exporters without subsidies—often the lowest-cost producers. When international prices are weak, subsidies weaken them further and can force even relatively efficient producers without subsidy backing out of the market. Export revenues are lowered and production is cut back in the countries tied directly to the world market to a far greater extent than market forces would otherwise suggest. The end result is increased instability in the market and uncertainty about growth in trade volume and value—even in the face of relatively clear market indications of the direction and magnitude of the changes likely in the trade.

The following country statements concentrate on these key trade and domestic agricultural policy factors in reviewing export performance in the 1970's and prospects for growth in the 1980's. The section on the EC goes into the greatest detail because the Community is forecast to continue to be the world's largest exporter and importer

and the most important competitor of the United States through at least the end of the decade. The United States, the second largest HVP exporter and importer, is treated at length in the final chapter of this report.

### The European Community

The European Community is the world's largest and fastest growing exporter of high-value products. After a decade of growth averaging more than 20 percent per year, the EC's HVP exports reached almost \$54 billion in 1980; \$34 billion of this total was traded within the Community and \$20 billion was shipped to third countries. Measured in local currencies to adjust for the changing value of the U.S. dollar, the EC's HVP exports in 1981 increased several percent despite virtually worldwide recession; small gains in HVP exports were also posted in 1982 despite a slight decline in world agricultural trade. Hence, the EC has actually been able to expand on the gains in market share it made during the high-growth 1970's

despite the most pronounced slowdown in imports in more than two decades.

Of the 29 product categories examined in this study, the EC is a top ranking exporter of all but a few. EC exports of beverages (\$7.6 billion), dairy products (\$10 billion), grain products (\$3.4 billion), refined sugar and sugar products (\$3 billion), meats (\$9.4 billion), and fruits and vegetables (\$7.2 billion) accounted for one-third to three-fourths of world trade in these categories in 1980 (tables 28 and 29).

Particularly marked over the last decade was the EC's transition from being a regional HVP supplier concentrating on trade within the Community to being a large-scale supplier of HVP's to third-country markets as well. While many of the most highly processed farm products produced by the Community are still traded within the EC, the EC's HVP exports have increasingly been shipped to non-EC markets. The most important third-country mar-

Table 28—EC exports of high-value agricultural products to non-EC markets, 1970 and 1980

SITC	Commodity group	1970	1980	Growth rate <sup>1</sup>	Major markets in 1980 <sup>2</sup>
-----Million dollars-----					
011	Meats, fresh, chilled, frozen	214	1,653	+	OPEC, USSR, Japan
022	Milk and cream	298	2,185	+	OPEC, Ivory Coast, Mexico
023	Butter	78	1,110	-	USSR, OPEC, Egypt
024	Cheese and curd	126	768	-	OPEC, U.S., Switzerland
025	Eggs	29	87	+	OPEC, Switzerland, Austria
046	Wheat, meal or flour	111	1,002	-	OPEC, Egypt, USSR
048	Cereal preparations	160	937	-	OPEC, Japan, Sweden
051	Fruit, fr., and nuts fr., dry	149	470	-	Switzerland, Austria, OPEC
052	Dried fruit	2	19	+	Switzerland, OPEC, Austria
053	Fruit, preserved, prepared	45	168	-	Switzerland, OPEC, Sweden
054	Vegetables, fresh, simply preserved	152	711	-	Switzerland, OPEC, Austria
055	Vegetables, prsrd, prprd.	67	244	-	OPEC, Switzerland, U.S.
0612	Refined sugar, etc.	98	2,032	+	OPEC, USSR, Turkey
062	Sugar preps., nonchocolate	64	238	-	U.S., OPEC, Sweden
071	Coffee	32	272	+	U.S., Japan, Austria
072	Cocoa	76	364	-	U.S., Switzerland, Sweden
073	Chocolate and products	67	329	-	OPEC, Austria, U.S.
074	Tea and mate	40	141	-	OPEC, Canada, Sweden
075	Spices	5	31	+	U.S., OPEC, Switzerland
0812	Bran, pollard, sharps, etc.	3	15	-	Switzerland, Austria, Sweden
0813	Vegetable oil residues	50	263	-	Austria, USSR, OPEC
0814	Meat or fishmeal fodder	32	186	-	Switzerland, Hungary, Poland
0819	Food waste and feed	65	502	+	OPEC, Sweden, Switzerland
09	Misc. food preparations	128	988	+	OPEC, U.S., Switzerland
11	Beverages	866	4,116	-	U.S., Switzerland, OPEC
1222	Cigarettes	100	500	-	OPEC, Sudan, Spain
411	Animal fats and oils	13	70	+	OPEC, Norway, Egypt
421	Fixed vegetable oils, soft	57	455	+	OPEC, Sweden, India
Total <sup>3</sup>		3,222	19,875	20.6 percent <sup>4</sup>	OPEC, U.S., USSR

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Total includes items not shown.

<sup>4</sup> Average annual growth rate.

kets include the OPEC countries, the United States, the Soviet Union, and the other European countries.

Part of the EC's success in expanding its HVP exports reflects the breadth and technical excellence of the member countries' food-processing sectors. The food-processing industry in the European Community is generally highly developed and uses the latest processing technology, sophisticated management, and large-scale capital investment. The Community has also taken full advantage of the management and marketing services available from the multinational corporations that in turn draw on the best expertise available around the world.

The level of affluence and the sophistication and heterogeneity of European tastes also ensure that the range of HVP's available is the widest possible and that the quality is high. An established reputation for quality is clearly one

of the EC's major selling points. A number of other factors are also at play—such as traditional marketing ties, proximity to markets, and aggressive marketing techniques—particularly in the case of HVP exports to the other Western European countries and many of the Mediterranean countries.

Even more important, however, has been the EC's use of policy to restrict HVP trade within the Community to member countries and to expand HVP exports to third countries through a complex scheme of processing and export subsidies. This particular aspect of the EC's HVP export performance and its implications for the operation of the world market and the interests of the other traders are treated in detail below.

**EC Trade Policy and the HVP Market.** The EC's trade policy regarding high-value farm products has two major

Table 29—EC exports of high-value agricultural products to member countries, 1970 and 1980

SITC	Commodity groups	1970	1980	Growth rate <sup>1</sup>	Major markets in 1980 <sup>2</sup>
--Million dollars--					
011	Meats, fresh, chilled, frozen	1,088	6,833	+	Italy, W. Germ., France
012	Meat, dried, salted, smoked	205	888	-	United Kingdom
022	Milk and cream	205	1,825	+	Italy, Netherlands
023	Butter	297	1,749	-	Belg.-Lux., United Kingdom
024	Cheese and curd	350	2,341	+	W. Germ., Italy
025	Eggs	107	611	-	W. Germany
046	Wheat, meal or flour	20	95	-	W. Germ., Netherlands
048	Cereal preparations	168	1,259	+	W. Germany
051	Fruit, fr., and nuts fr., dry	422	1,842	-	W. Germany
052	Dried fruit	5	49	+	W. Germ. United Kingdom
053	Fruit, preserved, prepared	140	381	+	W. Germany
054	Vegetables, fresh, simply prsved.	522	2,542	-	W. Germany
055	Vegetables, prsrd. preprd.	177	911	-	W. Germany
0612	Refined sugar, etc.	139	408	-	Italy
062	Sugar preps., nonchocolate	59	354	-	W. Germany
071	Coffee	64	603	+	France, Netherlands
072	Cocoa	66	616	+	W. Germany
073	Chocolate and products	146	1,023	+	W. Germ., France
074	Tea and mate	14	56	-	France
75	Spices	4	36	+	W. Germ., Netherlands, France
0812	Bran, pollard, sharps, etc.	15	135	+	Belg.-Lux., Netherlands
0813	Vegetable oil residues	83	735	+	France, W. Germ.
0814	Meat or fishmeal fodder	34	137	-	United Kingdom
0819	Food waste and feed	149	1,045	+	Neth., Italy, Belg.-Lux.
09	Misc. food preparations	139	1,176	-	United Kingdom, W. Germ.
11	Beverages	563	3,489	+	W. Germ., United Kingdom
1222	Cigarettes	61	987	+	Italy, France
411	Animal oils and fats	55	232	-	Netherlands, W. Germ.
421	Fixed vegetable oils, soft	100	748	+	France
Total <sup>3</sup>		5,430	33,616	19.8 percent <sup>4</sup>	W. Germ., France, Netherlands

<sup>1</sup>+ = above average; - = below average.

<sup>2</sup>Top markets in order of importance.

<sup>3</sup>Total include items not shown.

<sup>4</sup>Average annual growth rate.

Source: U.N. trade data.

objectives. The first centers on protecting the large internal EC market from imports—both to keep as much of the value added in food processing as possible at home and to support the Community's high support prices for raw farm products.

The EC's protection of its domestic market is based on use of both tariff and nontariff barriers. Tariffs on processed products often range upward of 20 percent. The escalation of tariffs in tandem with increases in processing also results in even higher effective rates of protection. This system more than offsets the disadvantages EC processors face as a result of the Community's sizable duties on imported raw or semiprocessed inputs. The EC HVP market is also protected in a number of key product categories by variable levies that operate to give Community products a competitive price advantage. As a result, the Community has been able to maintain high internal prices for HVP's and guarantee local processors a domestic market large enough to realize economies of scale and prices high enough to insure profitability.

This domestic HVP regime provides the EC with both an opportunity and a problem—a large-scale, highly capitalized food-processing sector eager to expand into the export market but with products priced too high to be competitive on the world market. This dilemma led to the second thrust of the EC's HVP trade policy—export expansion initially via export subsidies but eventually through the combination of export and processing subsidies.

**Export Subsidies.** Export expansion via subsidies or restitutions (i.e., the rebating by the Community of part of

the cost of producing a product for export) was initiated soon after the 1962 signing of the Community's Common Agricultural Policy (CAP). Export restitutions were used during the transitional period (1962-67) in a restricted form, but by 1967 they had been formally incorporated in the Guarantee Section of the CAP. Included were virtually all the major farm commodities traded by the EC. Export restitutions are now granted for the wide range of bulk agricultural commodities covered under the Common Organization of Markets as well as for certain processed foods.

The EC's export restitutions grew sharply, particularly after 1976, to a peak of \$7.6 billion in 1980 equal to almost 30 percent of the value of the EC's farm exports to third countries (table 30). Even with the 10-15 percent appreciation of the dollar in 1981 that worked to make EC prices in local currencies more competitive with dollar-denominated world prices, subsidies approached \$6 billion or 20 percent of the EC's third-country farm exports.

While these large subsidies appear initially to be economically irrational, they often pay for themselves in the short term as a means of disposing of farm surpluses and in the longer term through their effect on employment, economic activity, and Community social and regional development goals. HVP's are labor intensive, involve activity in many sectors of the economy, generate sizable government revenue, and help member governments boost rural income and employment. The export subsidy programs are also tightly administered and subsidies are adjusted frequently in order to maximize their effectiveness in moving Community products and to minimize their cost.

**Table 30—Selected EC CAP expenditures, export refunds, and agricultural exports<sup>1</sup>**

Year	CAP guarantee expenditures	3rd-country export refunds	Agricultural exports		Refunds/sales to non-EC countries
			Total	to non-EC members	
----- Million dollars -----					
1976	6,246.4	1,731.6	37,805.8	11,349.9	15.3
1977	7,794.2	2,920.6	44,107.6	13,929.6	21.0
1978	11,051.6	4,450.4	53,636.8	16,515.8	26.9
1979	14,310.0	6,485.9	64,943.6	20,268.2	32.0
1980	15,754.1	7,591.4	74,387.5	26,433.0	28.7
1981 <sup>2</sup>	12,259.0	5,513.8	72,917.8	29,116.8	19.0

<sup>1</sup>Expenditures are those of the EC Agricultural Guidance and Guarantee Fund (EAGGF) excluding guidance expenditures oriented toward internal farm structure issues that account for up to 5 percent of total EAGGF expenditures.

<sup>2</sup>Preliminary. If the impact of the 12.5-percent appreciation of the U.S. dollar in 1981 is factored out, 1981 expenditures would be at about 1980 levels and exports would be record large both to all sources and to third countries.

Source: Annual Financial Report of the EAGGF—various 1978 to 1982 issues.

A few key categories of products receive the largest share of the restitutions; cereals (22 percent) and dairy products (50 percent) accounted for 72 percent of the total in 1980. Subsidies as a percent of the value of the products exported are largest for beef and the other livestock products including dairy products. The subsidy paid to export EC beef was actually larger than the return on the sale; almost \$1 billion was spent to subsidize exports of \$900 million in beef to third countries in 1980. Table 31 provides a detailed commodity breakdown of the export subsidies for 1980 and 1981.

Several countries within the Community also benefited more than others from the program. French restitutions range from \$2-2.5 billion per year and represent a 25-30 percent subsidy on French exports to third countries. Equally important, export restitutions accounted for almost two-thirds of all the Community's agriculture-related expenditures in France. The Netherlands has also benefited from sizable restitutions and has become the world's largest exporter of dairy products. Table 32 provides detailed sample receipt data for France for 1980 and 1981.

Table 31—EC agricultural exports and export refunds, 1980 and 1981<sup>1</sup>

Commodity	SITC code	Agricultural exports		Export refunds <sup>2</sup>	· Refund as percent of exports sales to non-EC countries
		Total	To non-EC countries		
<i>----- Million dollars -----</i>					
<b>1980:</b>					Percent
Grains and preparations	04	10,054.0	4,545.1	1,697.4	37.3
Milk and milk products	02	9,977.8	4,065.7	3,823.1	94.0
Agricultural oil and fats	4	2,696.0	1,008.6	5.2	.5
Sugar and preparations	06	3,635.1	2,606.2	398.5	15.3
Beef and veal	0111	4,548.8	901.1	996.2	110.6
Mutton and lamb	0112	299.4	17.4	--	--
Pork	0113	2,382.1	232.6	127.5	54.8
Eggs and poultry	025	1,690.5	549.1	119.0	21.7
Fruits and vegetables	05	7,837.0	1,581.0	57.5	3.6
Wine	1121	3,138.7	1,279.1	36.8	2.9
Tobacco, unprocessed	1210	207.7	64.4	6.3	9.8
Fish and preparations	03	2,514.5	720.9	15.9	2.2
Processed agr. products not specified above <sup>3</sup>		15,278.6	6,080.9	308.1	5.1
Other		10,217.3	2,777.9	--	--
Total		74,387.5	26,430.0	7,591.4	28.7
<b>1981:</b>					
Grains and preparations	04	9,735.4	5,057.4	1,366.0	27.0
Milk and milk products	02	10,188.0	4,383.9	2,106.0	48.0
Agricultural oil and fats	4	2,477.5	940.7	9.4	1.0
Sugar and preparations	06	3,940.6	3,144.8	456.9	14.5
Beef and veal	0111	4,202.8	1,116.5	921.3	82.5
Mutton and lamb	0112	236.1	16.0	--	--
Pork	0113	2,457.5	491.7	148.0	30.1
Eggs and poultry	025	1,764.6	760.4	93.7	12.3
Fruits and vegetables	05	7,502.9	1,562.5	47.8	3.1
Wine	1121	2,982.8	1,295.0	28.8	2.2
Tobacco, unprocessed	1210	212.2	75.3	6.5	
Fish and preparations	03	2,375.1	760.2	14.1	1.9
Processed agr. products not specified above <sup>3</sup>		13,930.8	7,045.7	315.3	4.4
Other		10,911.5	2,466.7	--	--
Total		72,917.8	29,116.8	5,513.8	19.0

-- = negligible.

<sup>1</sup>1981 is the most recent year for which detailed information on export subsidies is available.

<sup>2</sup>Excludes small payments on trade between member countries due to currency adjustments.

<sup>3</sup>Includes (07) coffee, tea, cocoa, spices; (08) animal feed; (09) misc. food preparations; (21) hides and skins; (22) crude animal and vegetable materials; and (26) textile fibers.

**The Operation of the Export Subsidy Program.** A number of criteria fixed by EC regulation govern the granting of restitutions. In general, they are supposed to reflect the difference between the EC's internal price for a particular commodity and the world price. EC internal prices are usually well above world prices in order to support farm income and are generally protected by variable levies and, in many cases, by tariffs as well.

The Community claims that export refunds are a necessary domestic pricing measure and an important part of its internal price stabilization scheme and hence outside

the purview of the Council of the General Agreement on Trade and Tariffs (GATT) or the interests of the other exporters. However, critics claim that—internal price stabilization aside—the calculation of EC restitutions is clearly designed to give EC products a competitive edge. Moreover, the calculation of export subsidies appears to be arbitrary in that they are based on methods of estimating prices, costs, and transport that are often changed with little or no notice and tend to remove cost estimates far from the marketplace. This calculation of the restitution on the basis of such factors that are difficult at best to anticipate puts other exporters at a distinct disadvantage.

**Table 32—EC expenditures, French receipts, and French agricultural exports to non-EC countries, 1980 and 1981<sup>1</sup>**

Item	EC expenditures			French agricultural exports	
	Total EC-EAGGF expenditures	French EAGGF receipts		To non-EC countries	Refunds/ sales
		Total	Export refunds		
----- Million dollars -----					
<b>1980:</b>					Percent
Grains and products	2,320.2	1,025.0	878.6	2,221.6	39.5
Milk and dairy products	6,605.3	1,379.4	766.7	887.8	86.4
Oils and fats	1,094.3	188.6	4.7	173.5	2.7
Sugar	799.5	340.3	206.8	2,221.6	9.3
Beef and veal	1,895.0	404.1	187.1	553.4	33.8
Pork	160.7	8.2	5.4	12.2	44.3
Mutton and lamb	--	--	--	2.3	--
Poultry meat and eggs	118.8	56.8	56.8	318.4	17.8
Fruits and vegetables	955.6	135.0	13.6	302.0	4.5
Wine	416.3	226.6	6.5	677.9	1.0
Tobacco (unmfg)	429.9	127.3	--	44.8	--
Other	932.5	94.9	6.1	361.3	1.7
Total	15,728.1	3,986.2	2,132.3	7,776.8	27.4
<b>1981:<sup>2</sup></b>					
Grains and products	2,145.2	980.7	789.7	2,591.5	30.5
Milk and dairy products	3,732.1	925.5	516.9	940.2	55.0
Oils and fats	1,144.9	193.2	4.7	165.8	2.8
Sugar	856.9	354.8	226.9	1,278.2	17.8
Beef and veal	1,604.3	449.5	184.5	309.3	59.6
Pork	172.6	7.9	5.5	26.1	21.1
Mutton and lamb	--	--	--	3.3	--
Poultry meat and eggs	93.7	45.4	45.4	410.1	11.1
Fruits and vegetables	715.8	119.1	13.5	291.5	4.6
Wine	535.2	240.1	5.1	711.3	.7
Tobacco (unmfg)	421.5	88.8	--	3.1	--
Other	1,017.3	108.4	15.8	1,629.9	1.0
Total	12,439.5	3,513.4	1,803.3	8,360.2	21.5

-- = negligible.

<sup>1</sup>The EC Agricultural Guidance and Guarantee Fund (EAGGF).

<sup>2</sup>In terms of ECU's, total expenditures were only down slightly (\$11,142.2 million in 1981 compared with \$11,315.2 million in 1980). Expenditures for most major products were up significantly but the 30 percent drop for milk and selected dairy products more than offset increases for other products. The slowing down in production in some products, improvement in market management, and higher world market prices for a range of products accounted for the lower 1981 expenditures. In addition, the appreciation of the U.S. dollar relative to the ECU (1.165/1.3923) works to underestimate the value of 1981 expenditures measured in U.S. dollars.

Source: *Tenth Financial Report on the EAGGF*, Commission of the European Communities.

In actual practice over the 1970's, export restitutions were adjusted weekly, fortnightly, monthly, quarterly, and annually, and that practice has continued into the 1980's. Minimum refunds are also sometimes guaranteed at profitable levels by fixing restitutions in advance for holders of export licenses. Advance payment of export refunds can also be received if goods are held in bond. Both theoretical and empirical relationships are used in calculating restitutions for products composed of more than one ingredient. The factors used by the Community to determine just how much of a particular input is used and how large the subsidy should be often appears to be manipulated to inflate restitutions. All these devices are used in varying degrees to guarantee that the EC exporter makes profitable sales. In short, restitutions appear to be set at whatever level is necessary to move surplus EC products on the world market.

Analysis of the EC's poultry restitutions, feed prices, and feed conversion rates during the 1970's provides an indication of the degree to which export restitutions went beyond the level justified by the EC in the name of high internal feed prices. Export restitutions exceeded the added cost incurred by poultry producers due to high feed prices every year since 1975 and by an average of 30 percent. Moreover, poultry appears to be only one of a number of products for which the EC has consciously set restitutions high enough to provide a competitive edge and allow EC exporters to obtain an increasing share of the world market. Table 33 suggests that the restitution paid on poultry is considerably smaller than the restitutions paid on other HVP items—particularly those items the EC has emphasized in its export promotion programs.

Given this type of EC activity, other exporters tend to ignore the EC's domestic pricing argument and claim that the EC's use of export restitutions to disrupt the world market clearly falls under the purview of GATT—particularly in those cases where markets are thin and the price impacts of EC dumping are extremely disruptive.

**Processing Subsidies.** In addition to export restitutions paid to compensate for the higher cost of domestically produced or imported inputs, the EC has also instituted a processing subsidy for products such as casein, tomato products, and selected canned and dried fruits and vegetables. The subsidy is calculated to reflect the higher EC processing costs due to the minimum prices guaranteed for locally produced inputs such as fruits and vegetables but appears to be manipulated to encourage use of the sizable surpluses built up as a result of high support prices. Appreciably less information is available on proc-

essing subsidies, making it difficult to arrive at product specific estimates of the costs and benefits involved. But devices such as the setting of technical conversion rates for variable levy commodities at artificially high levels (a 1.67 pasta to durum wheat ratio, compared with a U.S. ratio of 1.43) appear to be used by the EC to keep combined processing and export subsidies high enough to guarantee profitability. Food processors benefit from the processing subsidy they receive in addition to protection from the normal EC tariffs (averaging 20 percent ad valorem or more) on processed foods. Hence, the processing subsidy reinforces EC producers' advantage in the home market as well as in the world market.

Moreover, a large number of processed foods—such as candy, chocolate, pasta, biscuits, cake mixes, wheat flour, dairy-based breakfast and baby foods, casein, ice cream, sugar, rice paper, frozen dinners, and soups—receive both processing subsidies and export restitutions because they contain one or more agricultural commodities imported into the EC under levy.

**Export Prospects for the 1980's.** The impact of the EC's HVP trade expansion/surplus disposal programs was particularly pronounced during the last half of the 1970's and in items such as beverages, dairy products, meats, and grain products. The EC's share of total world agricultural exports increased 5 percentage points over the decade, at least partially at the expense of the United States, due largely to gains in these products. Given the Community's commitment to continuing existing export and processing subsidies, exports in these groups are likely to continue to set the overall pace of world growth in HVP shipments through the 1980's. Each of these commodity groups is discussed in detail below.

The European Community is a formidable exporter of beverages both within the Community and to third-country markets; shipments in 1980 totaled almost \$8 billion, compared with a total world export value of under \$14 billion. The beverage category consists largely of alcoholic beverages, principally wine (approximately 50 percent), although beer, soft drinks, mineral waters, and cider-type drinks are growing markets. The major third-country markets for EC-produced beverages are the United States, the OPEC countries, and other Western European countries like Switzerland and Sweden.

The Community producer benefits from an intricate common agricultural policy for wines. "Guide prices" are set and supported by the Community through restrictions on imports, distillation aids, and short-term (up to 3 months)

and long-term (3-9 months) private storage aids. Export refunds are concentrated in table wine in order to make an otherwise high-priced wine competitive. EC-wide refund levels are fixed every 6 months but can vary according to destination and intended use. In the past, export refunds have seldom been used for quality wine exports and mostly in the case of German wine sales to Scandinavia. Imports of wine into the EC must be licensed and customs duties must be paid, except as modified in the

case of countries with concessionary EC import quotas. A system of "reference prices" (minimum import prices) is operated and a countervailing duty must be paid even if imports exceed the reference price.

EC beverage processors also benefit from export refunds for beer and processing subsidies applying to many ingredients used in the production of other beverages. The EC program allowed Community exporters to sell wine

**Table 33—Domestic market prices and export subsidies for commodities exported by the EC, 1980 and 1981**

Product	Exporter/importer	Unit	EC market price <sup>1</sup>	EC export refunds	Export refund/market price
<i>Percent</i>					
<b>1980:</b>					
Poultry	France/Middle East	cents/lb	64	9	14
	France/Saudi Arabia	cents/lb	66	12	18
Nonfat dry milk	Netherlands/Chile	Dol/t	1,715 <sup>2</sup>	1,529	89
Butter	Netherlands/Mexico	do.	4,064	1,904	47
Pork	Denmark <sup>3</sup> /Japan	do.	2,091	270	13
Beef and veal	W. Germany/all destinations	do.	1,795	1,869	104
Wheat flour	France/Egypt	do.	325 <sup>4</sup>	97	30
Table wine--Type RI <sup>5</sup>	France/all destinations	( <sup>6</sup> )	258	117	45 <sup>7</sup>
Type All <sup>8</sup>	W. Germany/all destinations	cents/hl	7,986	616	6
<b>1981:</b>					
Poultry	EC average/Middle East	cents/lb	56	6	11
	France/Saudi Arabia	cents/lb	59	8	14
Nonfat dry milk	Netherlands/Chile	Dol/t	1,463 <sup>2</sup>	859	59
Butter	Netherlands/Mexico	do.	3,499	974	28
Pork	Denmark <sup>3</sup> /Japan	do.	1,810	230	13
Beef and veal	W. Germany/all destinations	do.	1,554	1,719	111
Wheat flour	France/Egypt	do.	4315	77	24
Table wine--Type RI <sup>5</sup>	France/all destinations	( <sup>6</sup> )	258	118	46 <sup>7</sup>
Type All <sup>8</sup>	W. Germany/all destinations	cents/hl	8,000	620	8

<sup>1</sup>Representative wholesale/retail price in currency of EC exporting country unless otherwise specified.

<sup>2</sup>EC market intervention price.

<sup>3</sup>Copenhagen wholesale price, first-quality bacon pig carcasses.

<sup>4</sup>Ex-mill wholesale price.

<sup>5</sup>Red wine 10 to 12-percent alcohol.

<sup>6</sup>Cents per percent of alcohol, per hectoliter.

<sup>7</sup>To calculate this percentage, all wines were assumed to be 12-percent alcohol.

<sup>8</sup>White wine of riesling type.

Note: 1981 prices and refunds appear to decline; if measured in local currency to factor out the appreciation of the dollar from late 1980 on, prices increase slightly and subsidies tend to stay comparable.

abroad as much as 46 percent below domestic EC market prices in 1980 and 1981 (table 32). As noted earlier in the study, subsidies are part but not all of the EC's appeal to HVP importers. Higher quality wines with an established reputation—e.g., riesling types—are subsidized to a far less extent.

The EC is committed to continuing its support of the beverage industry at home and its aggressive marketing campaign abroad. The areas of particular market development interest to the EC include Japan, the Caribbean, and Latin America. The United States recently initiated a promotion campaign for wine and is likely to continue to find increased consumer acceptance, not only in third countries but also in Western Europe. Product awareness is an important marketing factor, however, and Western European producers have the advantage of a long history of production, well-defined marketing channels, and strict quality standards for exports.

As a result, without significantly stronger price and quality competition from other suppliers such as the United States or more liberalized access to the EC market itself, Community exporters are likely to be in a strong position to monopolize much of any increase in trade in wine and the other key beverage categories.

The EC has expanded its share of world *dairy* exports sharply since the mid-1970's despite high domestic support prices that often exceeded world market prices by 100 percent. High internal EC prices are protected by variable levies and intervention buying, while surplus dairy products and manufactured products containing milk receive whatever export subsidies are necessary to move them on the world market. The high price support afforded dairy producers has led to growing milk surpluses which in turn are exported onto the world market with ever larger subsidies. This government support has allowed the EC to monopolize any growth in world dairy exports and has depressed world prices significantly.

Sizable processing subsidies are also paid on casein and caseinates, while butter is sold from intervention stocks at low prices for use in baked goods and ice cream. Cheese is also marketed very aggressively. The sample budgets shown in table 32 provide a partial measure of the extent of this support since detailed processing subsidy data are not available. Export refunds as a percentage of wholesale prices in the Netherlands—one of the world's highest priced milk producers but the world's largest dairy exporter—were 60-90 percent for nonfat dry milk, 28-47 percent for butter. Export refunds were set at comparable rates for cheese.

As with beverages, the Community has generally worked to develop high-quality products noticeably different from competing products. As a result, the EC's discounted dairy products—with the exception of nonfat dry milk marketed largely as food aid—are finding consumer acceptance, product recognition, and growing demand in many third-country markets including the United States. Without a substantial revision in the EC's dairy export policy, or more aggressive marketing and subsidization by other exporters including the United States, the EC will be in a position to supply the bulk of any increase in world dairy import demand well into the 1990's.

While the EC exports a large volume of pork and spends almost \$1 billion per year to subsidize beef exports, the major thrust of the EC meat marketing effort in the 1970's has been in *poultry*. The EC effectively combined a number of Middle Eastern market development activities and Community regional development efforts to establish poultry export industries geared toward meeting Arab import demand.

The EC's poultry export program centers in large part on export subsidies. While export restitutions are in theory granted according to the amount of grain fed and are designed to offset the cost of high-priced feed imports, they have been set high enough to allow the EC to capture an increasing share of the major commercial markets. As table 33 shows, these restitutions amounted to a discount of 10-14 percent in 1980 and 1981 on exported poultry relative to poultry marketed internally.

In addition to this direct EC export subsidy, French exporters—the largest Community shippers—also benefit from capital grants from the national governments to develop facilities to export whole chickens to the Middle East and other national aids such as subsidized loans and direct payments to compensate for any loss of income, improvements in infrastructure; and technical research on improved breeding and feeding.

Over the decade ahead, Community broiler producers will be able to compete effectively in the export market only if the current system of export restitutions is continued or if (as proposed) the major export poultry plants are allowed to import grain "in bond" at world prices. This system is used for exports of flour by some EC countries. Should the current poultry system be continued, however, the EC is capable of meeting most of the increase in import demand forecast for the 1980's. France is likely to intensify its export marketing outside the Community—particularly if other member countries strive for national self-sufficiency and prohibit imports of pou-

try produced elsewhere in the EC because of health regulations.

EC subsidies on chickens have, and will continue to, cut directly into the U.S. export market. Increased EC exports to the world market and increased EC self-sufficiency have worked to reduce the U.S. share of 1980 world poultry exports substantially below the 1970 level. However, the EC faces somewhat the same problem in reverse in the 1980's. Even larger Brazilian subsidies have allowed Brazilian exporters to capture a significant part of the market (which EC exporters captured from the United States) over the last half of the 1970's.

Several other *livestock* products have also benefited from the EC's trade policy regime. Beef and veal exports by the EC have grown rapidly for several years. While consumption grew by about 1.7 percent per year during the 1970's, production grew at a 2.4-percent compound annual growth rate. Growth in consumption was even slower toward the end of the decade, putting additional pressure on exports to dispose of surplus production. The EC's CAP for beef and veal involves export subsidies as well as internal price supports and protection against imports. Export subsidies more than doubled between 1977 and 1980 to \$922 million and increased further in 1981. In 1980, export refunds averaged 100 percent of wholesale prices in West Germany, the major exporter; by 1981, they had increased to over 110 percent (table 33).

This subsidy level actually understates the impact of the EC's overall livestock policy on beef production and exports. Generally, beef is produced as a byproduct of dairy operations and specialized beef production is much less important in Western Europe than in the United States. Thus, the impact of the CAP on the dairy sector, which is subsidized at much higher rates, plays a major role in influencing beef production and exports. Given the size of the Community's herd and the interrelationship between beef and dairy, the Community is likely to be in a strong position to export beef over the 1980's—albeit possibly at somewhat lower levels than in the late 1970's.

Despite its record as a net grain importer until 1980, the EC has a long tradition of exporting grain—particularly wheat and wheat products to third-country markets. This trade is supported directly via export restitutions and indirectly via internal marketing arrangements. In addition to the standard export payment on wheat and wheat products, exports are subsidized via the granting of special end-of-season stock subsidies and the pre-fixing of

levies. Special freight subsidies are also sometimes paid on sales to distant markets.

Processing subsidies also apply and often double the subsidy afforded flour and other semiprocessed and processed grain products via export restitutions (table 33). Many grain millers also benefit from national aids. French grain and flour are often financed, for example, in part with the credit guarantee of the French Government's Export Credit Insurance Company.

The EC exports a wide variety of other highly processed cereal preparations (i.e., biscuits, cookies, etc.) to third-country markets including the United States. In most cases, product differentiation and quality appeal rather than subsidies appear to have been the most important competitive factor. In an increasing number of cases, however, the EC has turned to large subsidies to dispose of surpluses and gain a larger market share. EC pasta export restitutions, for example, rose sharply over the last half of the decade.

The combined effect of these export and processing subsidies and national aids is such that the EC is likely to continue to be the major supplier in the flour and cereal preparations markets in the 1980's unless the cost of restitutions forces a major change in Community policy. The EC's gains have been largely at the expense of the United States and are likely to continue so in the 1980's. The U.S. share of the world flour market, for example, fell from over half in the 1960's to less than a fifth in 1980 in direct response to EC gains.

**Conclusion.** In at least these major beverage, dairy, poultry, and grain product categories, the EC is likely to maintain or expand its share of world HVP exports in the 1980's unless the rising cost of export subsidies forces a major change in Community policy. At play in the 1970's was a complex and increasingly expensive subsidy scheme that, if unaltered, could break the EC's budget by the mid-1980's. Should world market prices for these products strengthen sufficiently to ease the subsidies necessary to move EC products on the world market or the Community be willing to bear increasing restitution costs, however, Community efforts to increase its HVP exports could push its market share up by another 5 percentage points over and above the 5- to 7-point gain made in the 1970's.

More has been and will continue to be at play, however, in shaping EC HVP exports than subsidies. The EC has been quick to capitalize on traditional marketing ties, to develop quality products, and to use aggressive salesman-

ship to reinforce the impact of export subsidies. Successful competition with the EC in these other important marketing areas will also be critical if the United States is to expand its HVP exports in the 1980's.

### Brazil

Brazil ranks as the third world's largest HVP exporter despite the country's limited processing sector and supporting infrastructure. Brazilian HVP shipments during the late 1970's were \$5-\$6 billion compared with \$54 billion by the EC and \$11 billion by the United States. Brazil's position in the market is due in large part to its comparative advantage in producing oilseeds and tropical products. Widespread government policy intervention, however, has also been necessary to overcome serious financial and infrastructure problems that limit most other developing countries to little, if any, HVP exports.

Brazil's HVP products and markets are not as numerous as those of the EC and the United States. During the 1970's, over 60 percent of its HVP exports went to the EC, the

United States, and a few Eastern European countries. Shipments were also heavily concentrated in a few categories including coffee, oilseed meals, and cocoa and cocoa products (table 34). Soybean meal and oil accounted for over half of Brazil's HVP exports in 1980 and 1981 and are generally shipped in semiprocessed form to a few key developed and developing countries.

Brazil's HVP exports over the 1970's increased slightly faster than the 15-percent average for the top 10 exporters; exports of meal, cocoa, and cocoa products increased faster than Brazil's all-HVP average of 17-18 percent, while meats did less well. Many of the export and processing subsidy options used by the EC were also employed by Brazil to expand HVP exports. But Brazil's weak currency position and increasing need for hard currency add a foreign exchange dimension. Brazil's programs effectively trade the soft domestic cruzeiros expended to pay for elementary processing of tropical and semitropical raw products for convertible U.S. and EC currencies used, in turn, to pay for expensive energy imports and to meet

Table 34—Brazilian exports of high-value agricultural products and major markets, 1970 and 1979

SITC code	Commodity groups	1970	1979	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars	Rating		
011	Meats, fresh, chilled, frozen	82	148	-	OPEC, Japan, EC
012	Meats, dried, salted, smoked	1	7	+	--
022	Milk and cream	--	1	+	--
025	Eggs	--	1	+	--
048	Cereal preparations	--	6	+	--
051	Fruit, fr., and nuts, fr. and dry	30	135	+	U.S., Argentina, EC
053	Fruit, preserved, prepared	23	306	+	EC, U.S., Canada
054	Vegetables, fresh, simply preserved	3	6	-	Argentina, EC
055	Vegetables, prsrd., prepd.	4	12	-	EC
0612	Refined sugar	0	94	+	OPEC, China (PRC), EC
062	Sugar prep., nonchocolate	--	14	+	U.S., Paraguay, Bolivia
071	Coffee	982	2,326	-	EC, U.S., Sweden
072	Cocoa and products	106	945	+	U.S., EC, Poland
073	Chocolate and products	--	7	+	Japan
074	Tea and mate	8	28	-	Uruguay, Chile, U.S.
075	Spices	8	49	+	U.S., EC, Morocco
0812	Bran, pollard, sharps, etc.	5	31	+	EC, Portugal
0813	Vegetable oil residues	77	1,173	+	EC, Poland, Singapore
0819	Food waste and feed	--	12	+	EC, Paraguay
09	Misc. food preparations	--	26	+	EC, Angola, Paraguay
11	Beverages	1	11	+	Paraguay, Angola, EC
421	Fixed vegetable oils, soft	11	431	+	India, EC, Pakistan
Total <sup>3</sup>		1,345	5,771	17.6 percent <sup>4</sup>	EC, U.S., Poland

-- = negligible.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

debt payments. The major components of Brazil's HVP export program are outlined below.

**Brazil's HVP Export Policy.** The Brazilian Government's emphasis on exporting processed rather than unprocessed agricultural products relates directly to pressure to maximize foreign exchange earnings and to ease a serious domestic unemployment and economic development problem. Brazil's need for foreign exchange continues to grow at more than 10 percent per year; the country's annual petroleum import bill is in excess of \$10 billion and its debt service payments are approaching \$15 billion per year. Agriculture—particularly HVP agriculture—is the country's leading exchange earner and earned more than \$11 billion or 55 percent of the total in 1980. Producing HVP's for export is also an attractive source of employment and economic growth in a country with a 20-percent unemployment rate and growth in output lagging at about 1 percent per year since 1976.

Brazil has encouraged HVP exports in a number of ways, many of which affect the structure of processing at home, instead of subsidizing products for export and ultimately consumption abroad. For example, the government provides subsidized credit—often at negative real interest rates—to construct processing facilities and to transport products—particularly HVP products—to port.

The poultry and soybean sectors provide ready illustrations. Poultry exporters can obtain cheap government credit to finance virtually all stages of production and export including feeding, slaughtering, packaging, transport-

ing, and refrigerating. Negative interest rates are also offered on government loans for constructing soybean-crushing plants. Crushing capacity increased from 1 million tonnes per year in 1970 to 12 million tonnes in 1977 and to 20 million tonnes in 1981. The amount of credit allotted to each soybean processor each year was tied directly to the value of the processor's foreign sales during the preceding year.

The Brazilian Government's domestic development programs in other areas also tended to spill over into the HVP area. Since soybeans are generally double-cropped with wheat, their production is encouraged indirectly by the government's efforts to expand wheat output and raise wheat self-sufficiency with high support prices. The impact of the wheat program is reflected in the increasing supply of attractively priced seed inputs available for processing.

The Brazilian Government also maintains differential tax rates that favor export of processed products. Cocoa beans, for example, face a 10-percent export tax while cocoa products are generally exported free of tax. Moreover, the tax collected on cocoa beans was allocated to the country's cocoa bean research organization to help finance the study of bean production and marketing. Soybean exports face a 13- to 15-percent tax while meal exports face an 11-percent tax and oils face an 8-percent tax. In the case of soybean oil, the government further encourages exports by exempting earnings on exports from the country's corporate income tax. In several cases, the government actually prohibits raw product exports;

**Table 35—Brazilian frozen poultry exports, 1981<sup>1</sup>**

Destination	Volume	Import unit	Value	Import unit value for
		value		comparable U.S. product
	Tonnes	\$US/t	\$US 1,000	\$US/t
USSR	350 (37,108)	1,250 (1,055)	438 (39,234)	na na
Saudi Arabia	55,690 (44,898)	1,224 (1,030)	68,178 (46,157)	50 (1,400)
Kuwait	53,269 (9,003)	1,166 (1,015)	62,097 (9,135)	55 (1,400)
Iraq	70,639 (42,472)	1,226 (1,070)	86,629 (45,450)	20 (1,300)
Jordan	16,085 (1,983)	1,200 (1,075)	19,309 (2,132)	1,440 (1,400)

na = not available

<sup>1</sup>1981 data shown with Jan.-June 1982 data in parentheses.

Note: Wholesale Sao Paulo poultry price was \$1,060 per tonne and transportation costs to Saudi Arabia were \$250 to \$300 suggesting a subsidy of \$85 to \$135 per tonne.

Source: *Carteira de Comerico Exterior, Banco do Brasil, Annual Reports, 1979 and 1980* Brasilia, Brazil, and *Foreign Agricultural Trade of the United States*, U.S. Department of Agriculture, various 1980 and 1981 issues.

exports of castor beans and cottonseeds are prohibited, while exports of crude and refined castor oil and cottonseed oils are encouraged.

The Brazilian program of domestic HVP aids is often reinforced with an EC-styled export subsidy program. Poultry is a good example of the combination of programs. While it is difficult to measure precisely the magnitude of the subsidies involved, table 35 provides a general indicator of the competition U.S. exporters face in key markets. The São Paulo wholesale price for poultry in 1981 averaged \$1,050 to \$1,100 per tonne while internal and international transportation costs to the Middle Eastern market averaged \$250-\$300 per tonne. Brazilian poultry, however, sold at \$1,130 to \$1,225 per tonne—implying a \$75-\$275 subsidy per tonne. Comparable U.S. products in the same markets cost \$1,300 or more.

Under increased pressure to expand foreign exchange earnings, the Brazilians increased their export subsidies sharply in 1981/82. The subsidies used effectively displace not only relatively high-priced U.S. products but subsidized EC products as well in many of the fastest growing markets.

Part of Brazil's success in expanding HVP exports also relates to the government's creation of and support for trading companies modeled after the Japanese *sogosho-sha*. The companies act as intermediaries linking Brazilian HVP processors and exporters with importers abroad. While initially oriented toward expanding a broad range of value-added exports from all sectors of the economy, Brazil's trading companies have been most successful in expanding semiprocessed farm product exports. COBEC—Brazil's Marketing and Trading Company—was founded in 1971 with the encouragement of the Minister of Finance and capital from the Bank of Brazil, Citibank, and the Bank of Tokyo. COBEC now has an office in New York, two other North American locations, five Western European locations, and five Latin American locations, plus a local network in Brazil. COBEC has followed a vertical integration strategy and owns much of the transportation, warehouse, and processing facilities it uses. INTERBAS, a second Brazilian trading company, has been equally successful in expanding the volume and range of products traded and the countries to which Brazil sells HVP's.

**Export Prospects for the 1980's.** In the decade ahead, continued strong growth in Brazilian foreign exchange needs is likely to increase pressure to expand HVP exports. Debt service, petroleum imports, and imports for development activities could raise annual foreign ex-

change expenditures to \$50 billion per year by mid-decade compared with \$40 billion in 1980 and 1981. Hence, trading local cruzeiros for hard currency via the value added in food processing is likely to become even more attractive in the 1980's than in the 1970's.

Contrary to the EC case, however, Brazil's HVP export performance over the 1970's depended more on volume gains than on unit price gains; the outlook for the products Brazil specializes in suggests a continuation of this situation in the 1980's. Hence, in order to sustain the 15-17 percent per year export gains of the 1970's while meeting growing domestic demand, Brazil will have to expand HVP production significantly and on a regular basis—possibly at a record rate of 4-5 percent per year.

The pressure to expand output to supply both the foreign and domestic markets is likely to be greatest for poultry and oilseed products. Domestic demand for meat, particularly low-priced poultry, is expanding rapidly with income growth. Expanding meat production in the 1980's to meet this domestic demand as well as export demand will also increase indigenous meal demand at an accelerating rate. The supply of oilseeds and seed-processing capacity available through at least mid-decade should be large enough to allow Brazil to meet both this expanding domestic oilseed product demand and any foreseeable increase in exports. But after mid-decade, domestic oilseed demand could become a significant drag on export availabilities.

The small volume of coffee and other tropical products exported relative to production should keep any likely increase in foreign demand within Brazil's production capacity. The slowed growth in exports of tropical HVP products Brazil is likely to experience in the 1980's will relate more to competition from other suppliers and dampened growth in import demand than to limitations on export availabilities.

Still in question after these domestic supply and demand factors are evaluated is the priority Brazil attaches to expanding HVP exports relative to meeting domestic demand. Meeting internal pressure for more HVP's to upgrade and diversify diets could force Brazil to accept slower growth in HVP exports and a declining world export market share. In any case, however, Brazil should be in a strong position to continue to dominate HVP trade for coffee and related tropical products and to compete effectively with the United States in the oilseed product markets until at least mid-decade.

## Other Major Exporters

The remaining large-scale HVP exporters tend to trade in a narrower range of products or with a more limited number of trading partners. The value of their HVP exports ranges from \$2-\$3 billion—less than 2-3 percent of the world market—compared with an EC share of 45 percent, a U.S. share of 10 percent, and Brazil's share of 6 percent.

Spain's 1980 HVP exports were valued at \$3.3 billion, with three-fourths of the total marketed in the EC, OPEC, and the United States. About two-thirds of the total was made up of fresh fruits, vegetable oils, and beverages.

Growth over the last decade was slightly below the average for the top 10 HVP exporters, with exports of commodities such as beverages and fresh vegetables outperforming fresh fruits, vegetable oils, and preserved vegetables (table 36).

Spain's position in the HVP export trade relates more to a comparative advantage in production and its location adjacent to the EC and Mediterranean markets than to government policy intervention. Spain enjoys a climate favorable for fruit and vegetable production, relatively low labor costs, and low marketing and transportation costs. The government does not generally provide direct export or processing subsidies to food processors or rebates to exporters. But long-term loans at subsidized rates are often extended to selected fruit and vegetable processors, and subsidies are paid to encourage exports of such items as tomato paste and, occasionally, deciduous fruit.

Spain's pending entry into the European Community and its increasing need for foreign exchange to pay for development and consumer imports could boost its growth in HVP exports in the 1980's. Accession to the Community will give Spanish HVP exporters access both

**Table 36—Spanish exports of high-value and processed agricultural products and major markets, 1970 and 1980**

SITC code	Commodity groups	1970	1980	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars			
011	Meats, fresh, chilled, frozen	5	36	+	EC, Japan, Andorra
012	Meat, dried, salted, smoked	--	2	+	--
022	Milk and cream	--	3	+	--
024	Cheese and curd	--	3	+	--
025	Eggs	1	39	+	OPEC, Switzerland, Lebanon
046	Wheat, meal or flour	12	33	-	OPEC
048	Cereal, preparations	--	12	+	U.S., Andorra
051	Fruit, fresh; nuts, fresh, dry	252	1,108	-	EC, Switzerland, USSR
052	Dried fruit	3	5	+	--
053	Fruit, preserved, prepared	39	134	-	EC, U.S., OPEC
054	Vegetables, fresh, simply prsvd.	71	454	+	EC, Switzerland, Sweden
055	Vegetables, prsrd., prep'd.	85	300	-	EC, U.S., OPEC
062	Sugar preps., nonchocolate	5	25	+	EC, OPEC, Japan
071	Coffee	4	25	+	Canada, EC, OPEC
072	Cocoa	1	37	+	EC, Switzerland, U.S.
073	Chocolate and products	--	9	+	--
074	Tea and mate	--	4	-	--
075	Spices	9	47	+	EC, U.S., OPEC
0813	Vegetable oil residues	0	7	+	EC, Syria
0814	Meat or fishmeal fodder	--	2	+	--
0819	Food waste and feed, n.e.s.	6	16	-	OPEC, EC, Portugal
09	Misc. food preparations	4	53	+	OPEC, EC, Ivory Coast
11	Beverages	77	463	+	EC, U.S., Switzerland
411	Animal oils and fats	1	5	+	--
421	Fixed vegetable oils, soft	139	463	-	OPEC, EC, Morocco
Total <sup>3</sup>		715	3,295	16.5 percent <sup>4</sup>	EC, OPEC, U.S.

-- = negligible. n.e.s. = not elsewhere specified.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

Source: U.N. trade data.

to the large internal EC market and Community support for subsidized marketing in third countries. The Spanish Government's commitment to expanding HVP-related export earnings should guarantee that adequate supplies are available to meet expanding export opportunities even at the expense of slowed growth in consumption at home.

Australia's \$2.8 billion in HVP exports in 1980 were heavily concentrated in dairy, livestock, and grain products shipped to the United States, Japan, and OPEC (table 37). In 1980, Australia was the world's leading exporter of meats, second in animal fats and oils, and third in dairy products. Growth in Australian HVP exports has been slower than the average for the other major HVP exporters; Australia's trade has tended to follow the same pattern as that of the United States with faster growth in bulk than in high-value shipments. Growth in shipments of meats, milk powder, cheese, dried fruit, and fresh vegetables outpaced growth in Australia's more traditional HVP exports such as fresh fruits, butter, and preserved fruit.

Australia's advantage in the HVP market is based on a pronounced competitive advantage in producing livestock products and a seasonal advantage related to its location in the Southern Hemisphere—supplemented to a limited extent by government policy. Australia has a large land base relative to its population and a semi-arid climate suitable for production of forage for ruminants. Its agriculture is highly commercialized with large efficient producing units. Southern Hemisphere growing seasons also give Australia the opportunity to supply out-of-season fruits to the major Northern Hemisphere markets. Government policies do, however, help lower production costs as well as facilitate exports. Subsidies for fertilizer have helped improve pastures and rural adjustment schemes have aided in the development of larger producing units. There are also limited government subsidies for food processing, mainly in dairy products, and HVP exports benefit from the government's general agricultural export promotion program.

Australia's crop and livestock production base is such that the supply of products available for export as HVP's at

Table 37—Australian exports of high-value and processed agricultural products and major markets, 1970 and 1980

SITC	Commodity groups	1970	1980	Growth rate <sup>1</sup>	Major markets in 1980 <sup>2</sup>
		Million dollars	Rating		
011	Meats, fresh, chilled, frozen	444	1,803	+	U.S., Japan, OPEC
012	Meat, dried, salted, smoked	1	8	+	Japan
022	Milk and cream	27	131	+	Malaysia, Hong Kong, OPEC
023	Butter	56	44	-	OPEC, Singapore, Hong Kong
024	Cheese and curd	20	121	+	OPEC, Japan, U.S.
025	Eggs	9	9	-	--
048	Cereal preparations	26	139	+	Japan, Philippines, OPEC
051	Fruit, fresh, and nuts, fresh, dry	35	65	-	EC, Singapore, OPEC
052	Dried fruit	23	99	+	EC, Canada, Japan
053	Fruit, preserved, prepared	50	71	-	EC, Japan, New Zealand
054	Vegetables, fresh, simply prsvd.	7	26	+	Singapore, EC, Malaysia
062	Sugar preps., nonchocolate	1	5	+	--
071	Coffee	3	17	+	Malaysia, Singapore, Hong Kong
073	Chocolate and products	2	12	+	Japan
074	Tea and mate	--	1	+	--
075	Spices	--	1	+	--
0812	Bran, pollard, sharps, etc.	3	--	-	--
0814	Meat or fish meal fodder	5	21	+	Japan, Singapore
0819	Food waste and feed, n.e.s.	4	8	-	Hong Kong, New Caledonia, Japan
09	Misc. food preparations	4	15	+	OPEC, Hong Kong, U.S.
11	Beverages	9	36	+	U.S., New Zealand, EC
411	Animal oils and fats	29	102	+	China (PRC), India, South Africa
421	Fixed vegetable oils, soft	--	1	+	--
Total <sup>3</sup>		792	2,777	13.4 percent <sup>4</sup>	U.S., Japan, OPEC

-- = negligible. n.e.s. = not elsewhere specified.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

prevailing world prices will quite likely be larger than world import demand over the 1980's. The more aggressive marketing of many of the livestock products of interest to Australia by other exporters such as the EC is also likely to limit growth in Australian exports to the 13-percent rate of the 1970's or less.

New Zealand is even more specialized than Australia in the HVP commodities it exports. Meats, butter, and powdered milk make up more than 80 percent of the total (table 38). About 60 percent of its exports are marketed in the EC, the United States, and OPEC. Like Australia, New Zealand's exports have grown more slowly than the shipments of other HVP exporters. Within New Zealand's HVP trade basket, growth in exports of powdered milk, fresh fruits and nuts, and animal fats and oils outpaced growth in meats and dairy products.

Liberal rainfall and a mountainous terrain favor the production of forage crops for ruminants. A large productive agricultural base and a small population have led to an export orientation in New Zealand's major food industries. The government guarantees minimum producer prices by supplementing low export prices, when necessary, and supports export promotion efforts, concentrated largely in meat and dairy products.

New Zealand faces the same general outlook for its HVP exports in the 1980's as Australia. The country's capacity to produce HVP's—particularly livestock and dairy HVP's—has been, and will likely continue to be, far larger than world demand for these products. In the relatively few markets where competitive pricing is the key determinant of trade flows, New Zealand should be able to expand its exports sharply. But without a more aggressive marketing program, New Zealand's overall share of the world HVP export market is likely to continue to decline.

Mexico exported about \$1 billion in HVP products in 1979, the last year with complete data, with about three-fourths going to the United States. More than 80 percent of its exports are made up of coffee, fresh vegetables, and preserved fruit (table 39). Mexico's HVP exports grew the most rapidly of the top 10 exporters, with exceptional growth in fresh vegetables and coffee destined for the United States.

Ideal conditions for growing coffee exist in the mountainous areas of Mexico's Gulf Coast region, Chiapas, and Oaxaca. Much of Mexico's fruits and vegetables are grown with irrigation in the northwest. Mexico's farm labor costs, together with the timing of the harvest (February-April), have insured successful penetration of

Table 38—New Zealand exports of high-value and processed agricultural products and major markets, 1970 and 1980

SITC code	Commodity groups	1970	1980	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars		Rating	Country/region
011	Meats, fresh, chilled, frozen	422	1,287	-	U.S., EC, OPEC
012	Meats, dried, salted, smoked	1	2	+	--
022	Milk and cream	37	257	-	OPEC, Philippines, Malaysia
023	Butter	114	345	-	EC, USSR, OPEC
024	Cheese and curd	50	128	+	EC, U.S., Japan
051	Fruit, fresh; nuts, fresh, dry	12	73	+	EC, U.S., Japan
053	Fruit, preserved, prepared	2	10	+	EC, Australia, U.S.
054	Vegetables, fresh, simply prsrd.	10	45	+	Australia, Japan, EC
073	Chocolate and products	3	12	+	Japan
0814	Meat or fishmeal fodder	3	18	+	Japan, Philippines, Fiji
0819	Food waste and feed, n.e.s.	1	14	+	Singapore, EC, Malaysia
09	Misc. food preparations	1	21	+	Japan, Australia
411	Animal oils and fats	11	52	+	Sri Lanka, USSR, India
Total <sup>3</sup>		678	2,291	12.2 percent <sup>4</sup>	EC, U.S., OPEC

-- = negligible. n.e.s. = not elsewhere specified.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

Source: U.N. trade data.

Table 39—Mexican exports of high-value and processed agricultural products and major markets, 1970 and 1979

SITC code	Commodity groups	1970	1979	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars			
011	Meats, fresh, chilled, frozen	46	46	-	U.S., Japan
025	Eggs	--	1	+	--
048	Cereal preparations	--	3	+	--
051	Fruit, fresh; nuts, fresh, dry	30	29	-	U.S., EC, East Germany
052	Dried fruit	1	1	-	U.S., EC
053	Fruit preserved, prepared	27	78	-	U.S., EC, Canada
054	Vegetables, fresh, simply preserved	52	314	+	U.S., Cuba, Spain
055	Vegetables, prsrd., prprd.	3	24	+	U.S., EC, OPEC
071	Coffee	74	481	+	U.S., EC, Switzerland
072	Cocoa	5	26	+	U.S., Cuba, Spain
073	Chocolate and products	--	1	+	--
075	Spices	3	3	--	--
09	Misc. food preparations	3	3	--	--
11	Beverages	4	38	+	U.S., Canada
	Total <sup>3</sup>	249	1,049	22.8 percent <sup>4</sup>	U.S., EC, Spain

-- = negligible.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

Source: U.N. trade data.

U.S. fruit and vegetable markets during the winter months before California and Florida crops are harvested.

Mexico's future in HVP trade will depend on the government's continued commitment to expand fruit, vegetable, and coffee production for export as well as continued close trade relations with the United States. Of these two issues, however, U.S. market access is the more critical.

#### Canada, Argentina, Greece, and India

These four medium-sized HVP exporters ship a somewhat broader range of products generally to a larger number of importing countries. Three (Canada, Argentina, and Greece) depend more on production advantages than on policy intervention to market their products.

Canada has a relatively diverse range of HVP exports but tends to concentrate its \$2 billion in marketings in the United States, and, to a lesser extent, the EC and Japan. Its principal HVP exports are meats, beverages, and fresh vegetables (table 40) although Canada ranks third in world exports of wheat flour and products and is also a significant exporter of chocolate products, beverages, and animal fats and oils.

Growth in Canada's HVP exports has been the least im-

pressive of the major exporters. Shipments expanded by less than 12 percent per year, due as much to the aggressive marketing of other exporters as to any Canadian price or quality disadvantage. Growth in exports of vegetable oils, miscellaneous food preparations, animal fats and oils, and fresh vegetables has been more rapid than in traditional items such as cereal preparations, fresh fruits, and preserved vegetables.

Canada's future HVP competitiveness will depend on its extensive land base, modern and efficient production and marketing systems, and its relatively low cost of production and processing. In 1980, a Government agency (CANAGREX) was created to develop foreign markets for agricultural products other than grain and live animals. But dry milk producers are the only industry at this point receiving significant government export subsidies. Canada will apparently continue to produce HVP's mainly for its own market. A few sectors—wheat flour, animal feedstuffs, vegetables, and meat products—will be, as they have been in the past, export oriented.

Argentina exports principally meats, fruits, vegetables, and vegetable oils and meal to the EC, Brazil, and OPEC (table 41). Export growth in HVP products over the past decade was below the average for the 10 largest exporters, but performance strengthened late in the decade in fresh

Table 40—Canadian exports of high-value and processed agricultural products and major markets, 1970 and 1979

SITC code	Commodity groups	1970	1979	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars		Rating	Country/region
011	Meats, fresh, chilled, frozen	107	428	+	U.S., Japan, EC
012	Meat, dried, salted, smoked	7	6	-	U.S., Jamaica
022	Milk and cream	31	127	+	OPEC, Mexico, Japan
024	Cheese and curd	16	9	-	EC, U.S.
025	Eggs	5	19	+	EC, U.S.
046	Wheat, meal or flour	57	94	-	Cuba, Egypt, Korea
048	Cereal preparations	31	73	-	U.S., EC, OPEC
051	Fruit, fresh; nuts, fresh, dry	17	45	-	U.S., EC, Hong Kong
053	Fruit, preserved, prepared	10	32	-	U.S., EC
054	Vegetables, fresh, simply prsrd.	34	151	+	U.S., EC, OPEC
055	Vegetables, prsrd., prepd.	15	36	+	EC, Australia, U.S.
0612	Refined sugar, etc.	2	10	-	Bahamas, Bermuda, Antilles
062	Sugar preps., nonchocolate	4	12	+	U.S., Argentina
073	Chocolate and products	7	29	+	U.S.
074	Tea and mate	5	12	-	U.S.
0812	Bran, pollard, sharps, etc.	12	26	-	U.S., EC, Japan
0813	Vegetable oil residues	16	56	+	EC, Norway, Cuba
0814	Meat or fishmeal fodder	16	15	-	U.S., EC
0819	Food waste and feed n.e.s.	24	74	+	U.S., EC, Japan
09	Misc. food preparations	8	38	+	U.S., EC, OPEC
11	Beverages	183	350	-	U.S., EC, Japan
222	Cigarettes	1	7	+	U.S., Bahamas
411	Animal oils and fats	19	83	+	EC, Japan, Korea
421	Fixed vegetable oils, soft	6	110	+	India, Hong Kong, Morocco
	. Total <sup>3</sup>	639	1,850	11.2 percent <sup>4</sup>	U.S., EC, Japan

-- = negligible. n.e.s.=not elsewhere specified.

<sup>1</sup>+ = above average; - = below average. <sup>2</sup>Top markets in order of importance. <sup>3</sup>Totals include items not shown.

<sup>4</sup>Average annual growth rate.

Source: U.N. trade data.

Table 41—Argentine exports of high-value and processed agricultural products and major markets, 1970 and 1980

SITC code	Commodity groups	1970	1979	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars		Rating	Country/region
011	Meats, fresh, chilled, frozen	305	535	-	EC, Brazil, Spain
012	Meats, dried, salted, smoked	1	1	-	--
022	Milk and cream	--	7	+	--
024	Cheese and curd	2	33	+	Brazil, U.S., EC
046	Wheat, meal or flour	6	19	+	Bolivia, Sri Lanka, Egypt
048	Cereal preparations	3	21	+	--
051	Fruit, fresh; nuts, fresh, dry	49	213	+	Brazil, EC, Sweden
052	Dried fruit	4	13	+	Brazil, EC, Sweden
053	Fruit, preserved, prepared	6	53	+	U.S., EC, OPEC
054	Vegetables, fresh, simply prsrd.	12	111	+	EC, Brazil, OPEC
055	Vegetables, prsrd., prepdr.	5	34	+	Brazil, OPEC, EC
0612	Refined sugar, etc.	0	25	+	OPEC, Egypt, Chile
062	Sugar preps., nonchocolate	1	8	+	--
074	Tea and mate	10	27	-	EC, Chile, U.S.
0812	Bran, pollard, sharps, etc.	30	77	-	EC, Portugal
0813	Vegetable oil residues	67	247	+	EC, Bulgaria, Cuba
0814	Meat or fishmeal fodder	5	21	+	Japan, Spain, EC-9
0819	Food waste and feed, n.e.s.	11	5	-	--
09	Misc. food preparations	5	16	+	Bolivia, U.S., Chile
11	Beverages	1	27	+	Paraguay, USSR, OPEC
411	Animal oils and fats	21	37	-	Brazil, EC
421	Fixed vegetable oils, soft	67	241	+	EC, OPEC, India
	Total <sup>3</sup>	611	1,773	14.2 percent <sup>4</sup>	EC, Brazil, OPEC

-- = negligible. n.e.s. = Not elsewhere specified.

<sup>1</sup>+ = above average; - = below average. <sup>2</sup>Top markets in order of importance. <sup>3</sup>Totals include items not shown.

<sup>4</sup>Average annual growth rate.

Source: U.N. trade data.

fruits and vegetable oils and meals. In both of these major product categories, Argentina has moved aggressively with government support to take advantage of its favorable climate, extensive land resources, and seasons that are the reverse of those of its principal competitor, the United States.

The future competitiveness of Argentina in HVP trade will depend on policy and natural advantages. A two-tier exchange rate system and rebates on exchange rate losses have been implemented to maintain export competitiveness despite the country's runaway inflation. Except for dairy products and poultry, Argentine producers and processors are likely to continue to be cost competitive, if only due to the country's agricultural resources and proximity to its second most important market, Brazil.

Greece, a member of the EC as of January 1, 1981, expanded its HVP exports of fresh fruit, dried fruit, and preserved fruits and vegetables by more than 20 percent per year in the 1970's. Total sales in 1980 reached \$1 billion, with most shipments destined for the EC, OPEC, and

Poland (table 42). With its Mediterranean climate, Greece is especially suited for producing fruits, vegetables, olives, olive oil, and wine. Greece is the world's largest producer and trader of olive oil, and is also a major producer and exporter of dried vine fruits, fresh and canned peaches, citrus juices, processed tomatoes, and wine.

The future of Greek HVP exports will be determined in large part by the same forces at play in Spain. Accession to the EC confers not only increased access to the EC market for Greek fruits, vegetables, and oils, but also Community support of Greek HVP marketing in third countries. Even under the most favorable circumstances, however, Greek HVP export growth is likely to slow considerably from the 20 percent of the 1970's to possibly 12-17 percent per year.

India's exports of HVP products tripled over the 1970's and reached \$1.5 billion in 1979; this growth was due largely to the country's comparative advantage in producing horticultural and tropical products processed cheaply

Table 42—Greek exports of high-value and processed agricultural products and major markets, 1970 and 1980

SITC code	Commodity groups	1970	1979	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars	Rating		
011	Meats, fresh, chilled, frozen	--	4	+	--
024	Cheese and curd	3	6	+	--
046	Wheat, meal or flour	--	93	+	OPEC, Jordan, Syria
048	Cereal preparations	--	19	+	OPEC, EC
051	Fruit, fresh; nuts, fresh, dry	41	237	-	EC, USSR, Romania
052	Dried fruit	41	184	-	EC, Hungary, Poland
053	Fruit, preserved, prepared	19	131	+	EC, E. Germany, Poland
054	Vegetables, fresh, simply prsrd.	10	67	+	EC, Jordan, Bulgaria
055	Vegetables, prsrd., prprd.	19	159	+	OPEC, EC, U.S.
0612	Refined sugar, etc.	1	--	-	--
062	Sugar preps., nonchocolate	--	4	+	--
071	Coffee	--	2	+	--
073	Chocolate and products	--	3	+	--
075	Spices	--	3	+	--
0812	Bran, pollard, sharps, etc.	--	3	+	--
0813	Vegetable oil residues	3	12	-	OPEC, EC, Cyprus
0814	Meat or fishmeal fodder	0	0	-	--
0819	Food waste and feed, n.e.s.	--	29	+	OPEC
09	Misc. food preparations	--	5	+	--
11	Beverages	20	49	-	EC, U.S., East Germany
411	Animal oils and fats	--	--	-	--
421	Fixed vegetable oils, soft	3	30	+	EC, OPEC, Cyprus
Total <sup>3</sup>		160	1,041	20.6 percent <sup>4</sup>	EC, OPEC, Poland

-- = negligible. n.e.s. = not elsewhere specified.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

Source: U.N. trade data.

using India's relatively inexpensive labor (table 43). The leading product categories included tea and mate, coffee, fruits, nuts, spices, vegetable oils, and sugar. Most of the products shipped were destined for the EC, OPEC, and Eastern bloc countries. The most notable of the Indian HVP marketing developments of the 1970's was the emergence of the OPEC countries as a major market and India's expansion in nontraditional items other than tea, fruits, vegetables, and oils.

Trade policy has played a different role in shaping Indian HVP trade than for the other exporters. The government promotes exports of agricultural commodities, particularly value-added items, but maintains control over exports of many items in order to avoid any adverse impact on domestic supplies and prices. Control over exports is exercised by various means, including restricting exports to government organizations, adjusting export duties and quotas frequently, and periodically banning the export of certain items. Frequent intervention by the government to protect domestic consumer interests, and the conse-

quent interruption of export supplies, has hampered the development of export markets for some commodities.

The government recently moved toward liberalizing trade and more actively promoting farm commodity exports, particularly since 1980, when India began to develop serious balance of payment problems. The export incentive measures adopted primarily benefit exports of industrial goods, but also a number of HVP agricultural products as well. The program provides a combination of cash support to export industries, excise and import duty drawbacks and import entitlement/replenishment licenses for raw materials and machinery used in manufacturing items for export, income tax rebates for overseas market development activities, and air freight subsidies.

HVP exports were also helped by the organization of commodity boards and numerous bilateral trade agreements. The commodity boards are typically joint public-

Table 43—Indian exports of high-value and processed agricultural products and major markets, 1970 and 1979

SITC code	Commodity groups	1970	1979	Growth rate <sup>1</sup>	Major markets in 1979 <sup>2</sup>
		Million dollars			
011, 012	Meats, fresh, chilled, frozen dried, salted, smoked	2.6	41.5	+	OPEC, EC
046	Wheat, meal or flour	1.0	8.1	+	Vietnam, North Korea, USSR
048	Cereal preparations	1.1	9.7	+	OPEC, EC
051-053	Fruits and nuts, fresh, dried, presrvd.	84.3	178.1	-	U.S., USSR, Japan, EC
054, 055	Vegetables, fresh, presrvd., prepd.	15.9	33.9	-	OPEC, EC, Malaysia, USSR
0612	Sugar, refined	29.4	111.9	+	Sudan, Indonesia, Egypt, Sri Lanka
062	Sugar preps., nonchocolate	.2	.6	+	OPEC, Nepal
071	Coffee	29.7	202.4	+	USSR, U.S., EC
073	Chocolate and products	.5	1.1	-	Sri Lanka, E. Europe
074	Tea and mate	190.7	511.4	-	USSR, EC, OPEC, Afghanistan
075	Spices	48.8	176.9	+	USSR, U.S., OPEC, Eastern Europe
0812	Bran, pollard, sharps, etc.	3.1	28.5	+	EC, Singapore
0813	Vegetable oil residues	60.9	135.0	-	Eastern Europe, EC, USSR
0819	Food waste and feed, n.e.s.	.5	8.9	+	Eastern Europe, OPEC
09	Misc. food preparations	2.4	8.1	+	U.S., Japan, EC
11	Beverages	--	1.4	+	Japan, EC
1220	Cigarettes	1.8	8.6	+	OPEC, USSR
411	Animal oils and fats	--	.3	+	OPEC
42	Fixed vegetable oils and fats	8.3	31.0	+	USSR, EC, Japan
	Total <sup>3</sup>	481.5	1,500.9	15.2 percent <sup>4</sup>	OPEC, Eastern Europe, USSR, EC

-- = negligible. n.e.s. = not elsewhere specified.

<sup>1</sup> + = above average; - = below average.

<sup>2</sup> Top markets in order of importance.

<sup>3</sup> Totals include items not shown.

<sup>4</sup> Average annual growth rate.

Source: U.N. trade data.

private ventures that assist in overseas marketing and in promoting domestic production. India has been aggressive in negotiating bilateral trade agreements, recently including barter agreements with the Soviet Union.

The future of Indian HVP exports depends on several factors. Growth in local demand for the products exported is increasing with population and income and will likely

prevent rapid growth in export volume. But the pressure to increase export earnings is likely to lead the Government gradually to ease controls and to give expanding shipments abroad a higher priority than increasing domestic usage. Should government efforts to promote HVP exports be effective, Indian trade in the same major horticultural and tropical products could pick up by 15-18 percent per year.

## Expanding U.S. Exports of High-Value Farm Products

*The ready supply of high-quality, low-priced inputs and cost-efficient processing available in the United States provide a solid basis for expanding HVP exports sharply over the decade ahead. In the increasingly competitive export environment and interventionist policy setting likely in the 1980's, however, expanding—possibly even maintaining—a 10-percent U.S. share of the world market will depend on more aggressive marketing and trade policy liberalization.*

*The same export expansion programs that helped the United States become*

*the world's leading supplier of bulk products could be used to expand U.S. HVP exports and the U.S. share of the world market. With these programs broadened to focus on both bulk and high-value products and with more effective U.S. lobbying to win liberalization of restrictive foreign HVP import and export policies, the United States could expand its share of the world market from 10 percent of the \$120 billion traded in 1980 to possibly 15 percent of the \$290-\$390 billion likely to be traded by 1990.*

*Given the labor intensity of producing HVP's, the \$15 billion per year in added U.S. farm exports involved in such an expansion of market share could generate 1 million jobs in the farm sector and the rest of the economy and up to \$50 billion per year in added economic activity. With its extensive agricultural resource base and processing capacity, the United States could easily expand its HVP exports sharply without sacrificing leadership in the market for bulk farm products.*

The U.S. comparative advantage in producing bulk farm products is strong enough vis-a-vis the other exporting countries to ensure that a large, probably rising, share of the LVP market will be supplied by U.S. farmers through at least 1990. The U.S. position in the HVP market differs, however, due to the extent to which other factors—such as advantages and disadvantages in processing HVP's or HVP import and export policies abroad—enhance or detract from the basic U.S. advantage in producing inputs. Of these other factors shaping the U.S. position in the HVP market, foreign trade policies—defined broadly enough to include all aspects of government intervention in the market—is the most critical.

Few segments of the world market for farm products are marked by as broad a degree of policy intervention by both importing and exporting countries as trade in HVP's. While the United States was able to maintain its 9-10 percent share of the HVP export market over the 1970's without large-scale government intervention, it was at the expense of a shift in the composition of its HVP exports toward increased concentration in the relatively low-value semiprocessed products. Prospects for slower

growth in world HVP imports in the 1980's and increased competition among HVP exporters suggest that a more aggressive marketing program will be necessary if the United States is to expand—possibly even maintain—its 10-percent market share in the 1980's.

Such a U.S. HVP marketing program could take one of two general directions. On the one hand, the United States could adopt an HVP trade policy and subsidy program similar to those in place in the EC and many other HVP exporters. This would involve a broad range of HVP export and production subsidies, foreign marketing aids, and domestic aids to enhance U.S. competitiveness in the world market. Adoption of the full range of HVP trade programs in place in many of the competing exporting countries would also entail closing the domestic U.S. market to HVP imports to guarantee U.S. suppliers the broadest possible marketing base.

While likely to be effective in expanding the U.S. share of the market initially, this option could ultimately be quite costly and self-defeating—depending on the extent of the confrontation and the other HVP exporters' reactions.

U.S. adoption of a broad HVP export subsidy program on the same scale as the EC's program would almost certainly result in a trade war between the United States and the Community involving a broad range of products. It could also result in confrontations between the United States and the other exporters in a narrower range of products.

The other HVP exporters have demonstrated that their HVP exports are a critical part of their farm programs and that they are generally willing to subsidize their exports, often automatically, to whatever extent is necessary to move them on the world market. While the United States could, in theory, push the other exporters to the financial breaking point and win foreign policy reform by paying ever-larger subsidies, the cash costs and political expense involved in such a confrontation could overshadow any U.S. gain. The subsidies needed, for example, to make U.S. poultry, dairy, and wheat products competitive with EC and Brazilian products in the fast-growing Middle Eastern market ranged from \$50-\$100 per tonne for flour and \$100-\$150 per tonne for broilers in 1980. Given the increased competition for this market experienced in 1981 and 1982, subsidies of \$100-\$125 per tonne for flour and \$250-\$350 per tonne for poultry would have been needed. Commercial exports of dairy products would have required, depending on the specific product, a subsidy of \$600-\$1,000 per tonne or more in 1980 and somewhat more in 1981 and 1982.

Given the trade volume involved, a U.S. export subsidy campaign to neutralize EC subsidies in these products in the Middle Eastern market alone could easily escalate from a \$400-\$600 million program initially to a multibillion dollar program if the EC increased its subsidies in tandem with U.S. subsidies to whatever level became necessary to keep EC exports moving. The additional \$600-\$800 million cost borne by the EC to neutralize a possibly \$1-\$3 billion U.S. export subsidy program would be a marginal expense compared with the \$7 billion already being spent or the \$9 billion likely to be spent in 1983.

Hence, the ultimate result of an HVP trade war between the United States and the EC would likely be escalating subsidies and the transfer of a disproportionate share of the gains from HVP trade to the importing countries—without any assurance of improvement in the long term of either the U.S. or EC position in the market. Such a subsidy war would also further weaken the functioning of the world market—an institution the United States has traditionally defended.

If, however, a U.S. HVP export subsidy program were designed not to expand market share but simply to maximize the cost of the other exporters' subsidy programs as a means to pressure for reform, the success of a U.S. subsidy effort would depend on operational questions. At issue is the potential for leverage and the extent of budget exposure. The nature of world agricultural trade is such that it is extremely difficult for an exporter to subsidize trade in a particular commodity on a selective basis. Any product subsidy offered on a commercial sale for any extended period of time generally has to be offered to all buyers.

As a result, the choice of products to be included in a U.S. subsidy effort is critical. Given the sizable level of U.S. wheat exports relative to the EC—roughly 3 to 1—any U.S. effort to undercut the EC with an aggressive wheat export subsidy program would cost the United States considerably more than the EC. But because of the minimal level of U.S. dairy exports relative to the EC (1 to 15), U.S. leverage would be far greater and considerable pressure could be brought to bear on the EC at a relatively small cost to the United States if the Community were to continue its export subsidy program and continue to ship out current volumes.

At risk even in cases with attractive U.S. leverage and exposure characteristics, however, is the spillover of such a confrontation into other sectors where the United States is vulnerable or its escalation into the general agricultural trade war described above.

A second and more balanced U.S. HVP export expansion program that minimizes the possibility of a trade war would focus on the aggressive use of export marketing programs to improve the U.S. competitive position internationally and to increase U.S. exporters' interest in meeting foreign HVP demand. This marketing effort would have to be combined with trade policy pressure—possibly including selective export subsidies to put financial pressure on the other HVP exporters to demonstrate U.S. concern—to ensure that improvements in the U.S. competitive position were not offset by trade policy retaliation abroad. This second option is discussed in detail in the remainder of this chapter.

### More Aggressive U.S. HVP Marketing

Efforts to market U.S. HVP's more aggressively would likely center on two initiatives: *broadening* existing export promotion programs to take into account growing U.S. interests in HVP trade and *initiating* several new programs

tailored to suit the unique characteristics of the HVP market. Both activities would have to recognize U.S. strengths and weaknesses. Among the strengths to be considered are:

1. The large supply of high-quality, low-priced inputs readily available for processing in the United States.
2. The sizable base the \$300 billion domestic market provides U.S. HVP producers. Despite relatively free trade in HVP's, the U.S. processing sector is cost-efficient enough to minimize the share of the processed product market filled by imports. The size of the domestic market has allowed many U.S. producers to realize the significant economies of scale possible in the highly sophisticated, capital- and technology-intensive food-processing industry. At the very least, the large size of the U.S. market ensures foreign buyers that the entire range of HVP's is available in bulk in the United States.

Among U.S. disadvantages to be overcome are:

1. The high transportation costs involved in shipping to major HVP markets overseas. The distance between the United States and the lucrative Western European, Eastern European, and Middle Eastern markets contrasts sharply with the EC's proximity. This suggests that the United States can do best in the larger volume import markets where shipping and distribution economies can be used to reduce the unit cost of delivering HVP's.
2. The established market relationships and trade awareness of HVP producers in many of the other exporters, particularly the EC. The most successful HVP-exporting countries often use government support to make domestic producers aware of HVP export opportunities, to gear local HVP production to suit importer taste, and to enforce rigorous quality controls—all of which enhance their appeal as reliable suppliers.

These advantages and disadvantages suggest that a few commodities in particular are likely to be attractive to U.S. HVP exporters including:

1. The semiprocessed and processed meat market, especially the poultry and possibly the pork market. U.S. feeding technology is the most efficient in the world and supplies of relatively cheap feedstuffs are readily available. Opportunities for large-scale U.S. beef exports are more limited due to differences in

U.S. and foreign tastes, the costs involved in producing lean versus marbled beef for export, and import restrictions by several of the major importers. However, the potential for expansion even in beef exports should not be ignored—particularly if import restrictions can be eased in countries like Japan.

2. The semiprocessed oilseed products market. The supply of seeds and the processing capacity available domestically provide the United States with a competitive cost edge in the meal and oil markets.
3. The highly processed beverage market. The increasingly high quality and relatively low cost of U.S. wine is improving competitiveness—particularly in the table wine market. The ample supply of raw materials and processing capacity available in the United States also provide a competitive edge in the fruit and vegetable juice markets.
4. Selected products in the cereals preparations market, particularly flour, if headway is made in liberalizing other exporters' subsidy programs.
5. Fresh and processed fruits, vegetables, and nuts—particularly those fruits and vegetables available in bulk in the United States, such as deciduous and citrus fruits, that can easily be acquired from supplies in excess of local marketing order needs.
6. Items such as hybrid seeds, where the U.S. investment in agricultural science provides a clear cost and quality advantage.
7. Items such as cigarettes where the quality of U.S. tobacco and processing efficiency provides a singular—but not fully exploited—market advantage. While the long-term potential for market penetration is still unclear, high-fructose corn sweetener also falls into this category.

Markets likely to be difficult for the United States to penetrate include:

1. The most highly processed, generally consumer-ready products where established brand names or quality differentiation are involved. Included here are items such as European cheeses, French and Swiss chocolates, and quality European wines. An extended and costly market development campaign with questionable payoff potential would be involved here.

2. Tropical products, such as coffee and sugar, in which the United States is heavily dependent on imports of unprocessed or semiprocessed inputs. While there is some potential for importing, processing, and reexporting, the advantage of a low-cost source of inputs is noticeably lacking and difficult to overcome in the highly competitive sugar market or the "managed" coffee market.
3. The dairy market where, given the current dairy support program, U.S. products are not price competitive. While many other exporters would also be uncompetitive if they sold at domestic support levels, they subsidize to whatever extent is needed to move their products on the world market. EC subsidies in the dairy market in 1981 totaled nearly \$4 billion.

Historical data on U.S. exports in these key categories are shown in detail in table 44.

The U.S. trade activities to be refocused or expanded, keeping these product-specific advantages and disadvantages in mind, include the agricultural export promotion program, the P.L. 480 and Export Credit Programs, and the USDA foreign trade information system. Among the activities to be initiated are a public information campaign to make foreign buyers aware of quality U.S. products, marketing incentives to interest domestic U.S. firms in producing HVP's for export, increased analytic support in identifying HVP export opportunities, and possibly the formation of HVP-oriented trading companies.

**Refocusing U.S. Agricultural Export Promotion.** Among the trade activities that can be refocused to expand HVP exports is the Market Development Program, the agricultural export promotion program administered by USDA's Foreign Agricultural Service. The activities provided for in the program center on *trade servicing* and *consumer promotion*. Trade servicing focuses on providing foreign buyers and U.S. sellers with information about the price,

**Table 44—U.S. exports of high-value agricultural products and major markets, 1970 and 1980**

SITC Code	Commodity group	1970	1980	Growth rate	Major markets in 1980 <sup>1</sup>
		Million dollars	Rating		
011	Meats, fresh, chilled, frozen	147	1,217	+	Japan, EC, OPEC
012	Meats, dried, salted, smoked	17	41	-	OPEC, Canada, Japan
022	Milk and cream	118	116	-	Mexico, OPEC, Philippines
024	Cheese and curd	5	20	-	Japan, Canada, OPEC
025	Eggs	13	97	+	Egypt, OPEC, Sudan
046	Wheat, meal, flour	100	211	-	Egypt, OPEC, Sudan
048	Cereal preparations	79	225	-	India, Canada, Philippines
051	Fruit, fr. and nuts, fr., dry	220	1,197	+	EC, Canada, Japan
052	Dried fruit	52	214	-	EC, Canada, Japan
053	Fruit, preserved, prepared	134	527	-	EC, Canada, Japan
054	Vegetables, fresh, simply prsvd.	146	856	+	Mexico, Canada, EC
055	Vegetables, prsvd., prep'd.	33	135	-	Canada, EC, Japan
062	Sugar preps., nonchocolate	10	46	-	Canada, Hong Kong, Japan
071	Coffee	19	126	+	Canada, Japan, Singapore
073	Chocolate and products	5	36	+	Canada, Japan, Hong Kong
075	Spices	5	19	-	EC, OPEC, Canada
0812	Bran, pollard, sharps, etc.	38	88	-	EC, Canada
0813	Vegetable oil residues	358	1,735	+	EC, OPEC, Canada
0814	Meat or fishmeal fodder	5	67	+	EC, Philippines, Japan
0819	Food waste and other feed	89	881	+	EC, Japan, Canada
09	Misc. food preparations	157	449	-	OPEC, Japan, Canada
11	Beverages	23	237	+	Canada, OPEC, EC
1222	Cigarettes	159	1,055	+	EC, OPEC, Hong Kong
411	Animal oils and fats	201	771	-	EC, OPEC, Egypt
421	Fixed vegetables oils, soft	243	993	-	India, OPEC, Egypt
Total <sup>2</sup>		2,380	11,378	16.9 percent <sup>3</sup>	EC, Canada, Japan

+ = above average; - = below average.

<sup>1</sup>Top markets in order of importance. <sup>2</sup>Totals include items not shown.

<sup>3</sup>Average annual growth rate.

Source: U.N. trade data.

availability, and use of U.S. products in overseas markets. It has been particularly successful in moving bulk U.S. products—such as soybeans and feed grains—onto the world market and into selected markets, primarily in developed countries.

Consumer promotion focuses on media advertisement, trade fairs, and related techniques generally aimed at promoting generic or brand name products. These activities have been more effective at promoting semiprocessed or highly processed products, again primarily in developed countries.

A large part of the U.S. success in increasing farm exports over the 1960's and 1970's is attributable to these trade servicing and consumer promotion activities. Estimates of the payoff on promotion expenditures in the form of in-

creased export sales range from 10:1 to 50:1. While the information marshaled to support these estimates is largely anecdotal, it is generally convincing. Export promotion appears not only to have expanded foreign demand for particular U.S. products but to have channeled much of the far larger increases in the general demand for food due to population and income growth into purchases of U.S. products.

As the data in tables 45 and 46 show, however, the program has been heavily oriented toward bulk products and funding has tended to stagnate in real terms and actually dropped off if measured relative to growth in U.S. or world agricultural exports. U.S. promotion expenditures have also dropped off considerably compared with other exporters' promotion expenditures.

**Table 45—USDA Market Development Program expenditures**

Year	USDA contribution	U.S. cooperator contribution	Foreign cooperator contribution	Total contributions	U.S. farm exports	Total contributions as percent of U.S. export	Total contributions (1972 \$)
<i>Million dollars</i>							
1970/71	13.7	6.9	11.7	32.3	7,955	0.4	35.3 <sup>1</sup>
1971/72	11.8	7.0	13.7	32.5	8,242	.4	33.9
1972/73	11.0	7.6	14.6	33.2	14,984	.2	33.2
1973/74	10.9	7.7	15.6	34.2	21,559	.2	32.4
1974/75	12.6	10.1	16.9	39.6	21,817	.2	34.5
1975/76	11.7	9.9	14.3	35.9	22,742	.2	28.6
1976/77	12.5	12.6	16.8	41.9	23,974	.2	31.7
1977/78	14.8	15.2	20.1	50.1	27,289	.2	35.8
1978/79	18.0	16.3	23.4	57.7	31,979	.2	38.5
1979/80	21.6	19.8	27.6	61.0	40,481	.2	37.5
1980/81	22.9	21.0	30.4	74.3	43,788	.2	41.6
1981/82	23.8	26.4	29.8	80.0	39,094	.2	41.4

Sources: Foreign Agricultural Service and Economic Research Service, U.S. Department of Agriculture.

**Table 46—USDA Market Promotion Program expenditures: commodity and market composition (FY 1981 data)**

Activity	Total expenditures		Expenditures in developed countries	Expenditures in developing countries	Expenditures in centrally planned countries	
	\$1,000				Percent	
LVP promotion	15,100	66	70	30		0
HVP promotion	3,700	1,692	8	0		5
Other activities <sup>1</sup>	4,100	18	72	23		
Total	22,900	100	74	25		1

<sup>1</sup>Trade Offices, Export Incentive Programs, etc.

Note: Unpublished data on expenditures by cooperators and by country were available on a fiscal year basis only. Funds provided to each cooperator were allocated entirely to the primary or processed product category corresponding to the cooperator's major commodity interest. The resulting distribution is approximate because some cooperators undertake activities relating to both the primary commodity and its processed counterpart.

Source: Foreign Agricultural Service, USDA.

USDA promotion funding increased from \$14 million in the early 1970's to over \$24 million currently. Private export interests in the United States and abroad funded \$2-\$2.50 of promotion for every \$1 of U.S. Government funding, pushing total promotion funding from \$32 million in 1970/71 to \$74 million in 1980/81 and \$80 million in 1981/82. It is noteworthy that the contributions of foreign businesses interested in expanding sales of the U.S. products they handle have grown to overshadow the contributions of domestic businesses and USDA; by 1980/81 they accounted for 40 percent of the promotion total.

But even combined government and private foreign and domestic promotion expenditures were less than 0.2 percent of the value of U.S. exports in 1980 compared, for example, with almost 0.4 percent in 1970 and the 1-5 percent of trade value spent by many other exporters to promote their products.

The program's limited funds also appear to be skewed toward promoting bulk products in developed countries. The share spent on trade servicing and the promotion of bulk products has held nearly constant at the two-thirds of the total shown in table 46 for 1980/81. Given the increase in other components of the promotion program such as trade offices, the share of USDA funding spent on promoting high-value products—particularly processed products in the high-growth developing countries—has declined. Private funding has tended to follow the same pattern.

This skewing of promotion expenditures in favor of bulk products relates to at least two factors. Bulk products have traditionally been seen as generic products with little or no identification with a particular producer. HVP's, however, are frequently seen as brand name products identified with a particular manufacturer. This closer association with a particular business interest—as opposed to the farm sector as a whole—raises questions of the propriety of government-funded promotion.

This skewing also relates to the composition of world agricultural trade and the role export promotion could play at the time the program was initiated. The world market was largely a bulk products market in the late 1950's and early 1960's when the program was established. Export promotion was seen at the time as an effective means of increasing disposal of the sizable bulk product surpluses troubling the farm sector.

Analyses by a number of Government and private interest groups done more recently suggest that, while the

payoff on bulk product promotion is still high, the payoff on HVP promotion is potentially as large or larger. However, bringing the export promotion program to bear on the HVP trade issue will involve at least two efforts—an effort to *increase overall program funding* so as not to abandon lucrative LVP promotion activities, and an effort to direct more of the program's *emphasis toward HVP products and HVP growth markets*.

How large an increase in funding would be needed to maintain, possibly expand, U.S. bulk promotion while expanding HVP activities is open to debate. Putting total export promotion expenditures as a percentage of export earnings back on par with 1970 levels (0.4 percent) would have put FY 1982 funding at \$160 million compared with the \$80 million actually allocated. Given the current split between cooperator and government funding, the USDA contribution would have ranged from \$50-\$55 million, compared with an actual allocation of \$24 million.

Such an increase is clearly too large to be absorbed effectively in 1 or 2 years. But a doubling of promotion expenditures over the next 2-3 years appears to be within the capacity of both USDA and the cooperators to absorb.

A large share of this increase would have to be channeled into HVP activities in order to improve the U.S. competitive position in the market. HVP promotion expenditures in 1981 totaled less than \$14 million, with \$4-\$4.5 million contributed by USDA. Expenditures of \$25-\$30 million specifically to promote HVP's, possibly \$10-12 million of which were contributed by USDA, would provide sufficient funding initially to expand activities in the commodity areas of greatest interest to the United States in the markets with the greatest potential.

The effectiveness of such an increase in program funding—particularly HVP funding—would also depend on USDA's success in expanding the interests of the export cooperators who actually manage promotion activities. In many of the areas identified as potential HVP markets, there is little U.S. promotion activity or cooperator interest in promotion. Many of the HVP sectors with considerable potential are actually without cooperators. New cooperators would need to be found and the initial USDA effort would have to go beyond the levels common in established LVP programs.

**Modifying and Expanding the P.L. 480 and CCC Export Credit Programs.** While their size is small relative to the value of U.S. farm exports and comparable programs in many of the other exporting countries, the United States

maintains P.L. 480 and Export Credit Programs to help foreign buyers with import financing. To date, the programs have been used largely to market bulk items. In limited cases, they have also been used to finance semi-processed items like flour, vegetable oils, and nonfat dry milk (table 47). The Title I provisions of P.L. 480 were particularly helpful in the 1950's and 1960's in increasing purchases of bulk U.S. products by low-income countries. The Export Credit Program also proved successful in appealing to middle-income countries with higher incomes but whose limited foreign exchange resources would otherwise have constrained their purchases of farm products.<sup>4</sup>

Increased emphasis in an expanded P.L. 480 program on HVP exports could make it an effective marketing tool. The effective price discount and the minimal foreign exchange expenditure involved in P.L. 480 sales would also interest many lower income developing countries that might otherwise view HVP imports as prohibitively expensive. Properly managed, the program could be used to promote an initial U.S. HVP sale, increase foreign buyers' familiarity with U.S. products, and, depending on the reactivation of the local currency program, provide funding for added in-country HVP promotion. The program would be designed to duplicate P.L. 480's success in the LVP market. The funding for such an HVP push would have to be largely in addition to existing allocations in order not to weaken the LVP effort and leave many low-income countries unable to finance imports of basic foodstuffs.

Opportunities for the use of the Export Credit Program to promote HVP exports are considerable—particularly given the program's appeal to the middle-income countries with stronger HVP demand and a history of purchasing U.S. LVP's. Moreover, assuming no defaults, the program involves no long-term cost to the Government and in some cases actually involves no initial budget outlay. The goals of an HVP export credit initiative would be comparable with P.L. 480 goals—make an initial sale and increase

<sup>4</sup>While only the issue of using the CCC programs to support an expanded HVP marketing effort is dealt with here, an equally pressing question is the appropriate use of credit in expanding U.S. LVP exports. The skewing of existing programs away from HVP's aside, the proportion of U.S. farm products moving with either P.L. 480 or Export Credit support has fallen off sharply over the last decade from approaching a quarter to about one-tenth of the total. The credit programs available from competing exporters have continued to expand. This has put the United States in a vulnerable competitive position as slowed economic growth and tightening foreign exchange constraints in many of the major importing countries increase their sensitivity to items such as supplier credits in picking trading partners.

Table 47—P.L. 480 and CCC Export Credit expenditures by product categories (FY 1981 data)

Item	Expenditures <sup>1</sup>
	\$1,000
P.L. 480 expenditures:	
HVP's--	
Flour and products	281
Nonfat dry milk	40
Oilseed products	179
Other	119
Subtotal	619 (40)
LVP's--	
Grains	787
Cotton	8
Tobacco	20
Other	59
Subtotal	873 (60)
Total	1,492 (100)
Export Credit expenditures:	
HVP's--	
Oilseed products	212
Flour	9
Poultry	3
Other	24
Subtotal	248 (15)
LVP's--	
Grains	1,275
Cotton	221
Oilseeds	94
Other	11
Subtotal	1,601 (85)
Total	1,849 (100)

<sup>1</sup>Figures in parentheses are percentages.

Source: *Foreign Agricultural Trade of the United States*, various 1981 issues, Economic Research Service, USDA.

familiarity with U.S. products—but for a wider range of HVP items and countries.

Several modifications of the export credit program are currently under discussion that would enhance its contribution to an HVP export effort. Among the modifications proposed is expanding the blended credit facility tested over the last 12 to 18 months and establishing a billion-dollar revolving fund to promote HVP exports. Common to all the modifications under discussion, however, is the goal of expanding sales abroad by providing importers with more direct government financing or government-guaranteed private financing, and more government financing at subsidized rates blended with guaranteed private sector financing to effectively lower the overall interest rate and increase U.S. competitiveness. Should such program modifications prove difficult to pass through Congress, a significant increase in funding for existing programs would be a viable alternative.

Direct government financing could be used to expand HVP sales sharply, particularly to countries dependent on credit to finance imports and with strong demand for HVP's produced abroad but with a poor credit rating. The leverage involved in direct government financing, however, is considerably less than in a credit guarantee program. A \$1 billion investment in direct Government credit could expand exports as much as \$500-\$750 million—assuming no serious additionality problems (i.e., that direct credit sales did not replace many sales that would have taken place in the absence of direct credit). A credit guarantee of \$1 billion would generate the same increase in exports without the budget outlays involved in direct government credit.

But the HVP credit issues ultimately become one of credit availability and credit terms. The importers most likely to be attracted by either direct government credits or guarantees that make private financing possible are generally not large-scale HVP importers. The credit programs most likely to attract HVP interest in the longer term after the current liquidity crises ease are those that use credit terms to underwrite price competitiveness. A blending of credit guarantees with direct government credit offered at less than the open market rate could, for example, be directed more toward creditworthy middle- and upper-income countries attracted by the combination of credit and the price discount implicit in an interest rate discount.

The leverage involved in such a blended credit program is considerably greater than in direct credits for countries unable to find credit elsewhere and attractive enough to the middle-income countries who could find credit elsewhere to be effective. Tightly administered, it could prove to be an attractive enough program to generate a higher export additionality return than the other programs as well. A Government outlay of \$1 billion in interest rate buydowns on direct credits could support as much as \$4-\$5 billion in additional foreign purchases of U.S. processed products. Use of such a program could be focused on countering the export subsidization of competing suppliers such as the EC. It could also be used as a negotiating point in winning the liberalization of HVP trade of interest to the United States over the longer term.

As with the other programs noted above, an effective U.S. agricultural export program would depend on an increase in overall funding rather than a redirection from LVP activities. Given the increasingly competitive stance taken by many of the other LVP exporters, the rationale for the P.L. 480 and export credit programs originally laid

out in the 1950's is still valid. This makes it critical that the United States avoid flip-flopping from a preoccupation with LVP programs to a preoccupation with HVP programs.

**Improving the USDA Foreign Market Information System.** The USDA operates an extensive international agricultural information system designed to provide the public with intelligence on foreign agricultural production, consumption, trade, price, and policy developments. The information is gathered by a 275-300 man agricultural attaché service stationed in 74 countries and is published in 18 regular reports. Over and above this intelligence collection work, USDA maintains a trade opportunity referral service (TORS) designed to match foreign importers with domestic U.S. suppliers. Both of these systems have served U.S. export interests well—particularly bulk export interests—but have made more limited contributions to expanding U.S. HVP exports.

The information published by USDA tends to be more comprehensive for bulk commodities with government programs—i. e., wheat, feed grains, oilseeds, and cotton—and for countries that are already large-scale bulk importers or exporters. Reporting on new HVP opportunities in old markets and, more important, new HVP opportunities in new markets is limited by funding and overseas manpower constraints and by the size of the bulk reporting job currently being done. For example, attaché coverage in the 20 North African/Middle Eastern countries that make up the largest HVP market outside the EC is limited to five posts.

Expanded information collected by trained observers on location is critical if the United States is to penetrate the HVP markets dominated by other major exporters—particularly the EC—or to take a leading role in developing new markets. Such an expansion in reporting could rely partially on a redirection of existing resources—particularly in the developed countries where reporting emphasis could be broadened to include the collection of more HVP intelligence. But expanded funding and increased USDA presence in U.S. embassies outside the countries currently covered is also needed.

Competing effectively in the HVP market is also likely to depend on improving the economic analysis done to support U.S. marketing efforts abroad. Given the high startup cost of market analysis in the uncertain HVP area, much of this support will have to be done by USDA initially. Economic research to identify emerging country markets—particularly those with no agricultural

attaches—and the most promising commodity markets would help U.S. exporters to capitalize on cost and quality advantages and increase the U.S. market share. At least part of this research would have to be geared toward advising U.S. exporters of changes in other governments' agricultural and trade policies. Given the importance of state trading in the HVP market, USDA research would also have to focus on identifying how foreign import decisions are made and implemented.

The longer term supply and demand studies prepared for USDA in developing countries in the 1960's could also be resumed in countries where surplus P.L. 480 funds are still available. These studies could focus more directly on opportunities for U.S. HVP export sales. Properly managed, this effort to expand HVP analysis could also be used to strengthen LVP marketing efforts as well.

**HVP Education Campaign.** While revamping existing trade programs can improve the U.S. competitive edge in selected country and product markets, any substantial gain in sales will also depend on increasing U.S. exporters' interest in the trade.

While European food-processing concerns are often forced to export much of their output to realize any economy of scale, most U.S. processors can look to regional markets within the United States to dispose of the output of even a large scale operation. The subsidized competition many U.S. exporters face abroad in key HVP markets tends to reinforce the resulting bias toward emphasizing HVP marketing efforts in the United States rather than riskier efforts abroad.

Adding to this bias was a farm policy in place over much of the 1960's and 1970's that viewed exports as a means of disposing of troublesome bulk product surpluses. The result has been a tendency for many U.S. export interests to concentrate on LVP markets and to focus on maximizing trade volume rather than the dollar value of sales. This volume concern contrasts sharply with the EC's willingness to trade in smaller markets interested in low-volume but high-value purchases and their concern with maximizing export earnings.

USDA's Foreign Agricultural Service, Extension Service, and Agricultural Cooperative Service can all serve as vehicles for advising farmers and processors of HVP opportunities at minimum cost to the Government. A more aggressive effort could also be launched through the state departments of agriculture. The farm cooperative system could also be a key actor in any HVP education campaign.

**Establishing HVP Trading Companies.** Given the many obstacles faced by HVP producers interested in breaking into the export market, the creation of specialized trading companies offers a number of opportunities. The trading companies used by the Japanese and, more recently, by the Brazilians and Koreans have been very successful in generating local interest in the export market and in expanding the exports of established traders by providing key intermediary service and market intelligence.

The classical Japanese trading company typically provides a knowledge of foreign markets collected through a global information network. Mitsui, Japan's largest trading company, has major computerized information centers in Tokyo, New York, London, Sydney, and Bahrain connected by satellite to 50 offices in Japan and 130 offices in 77 other countries. The trading company also generally handles the transportation, freight, insurance, and often the credit and foreign exchange aspects of international trade—services that are particularly valuable to small and medium-sized firms that would otherwise be unable to afford them. Mitsui also services firms and governments abroad by marketing their knowledge of Japanese products. In this sense, they combine many of the advantages of multinational corporations with a paramount concern with Japanese trade interests.

Brazil's trading companies have played an important role in that country's HVP export effort. COBEC and INTERBRAS, the largest Brazilian companies, are closely tied to HVP agricultural production and processing interests and private and national banks and manufacturers. While the companies have not been as successful in promoting nonagricultural products as hoped for, they have performed very well in the HVP export area.

The opportunities for HVP export trading companies in the United States appear to be significant—particularly given the relatively small proportion of any one HVP producer's output that would move into the export market and the potential for trading company economies of scale. This potential for trading company economies would be even greater if the companies involved worked closely with USDA in operating expanded HVP export promotion and credit programs. The private sector's interest in trading companies could also be enhanced by government tax credit incentives—possibly along the lines of the Domestic International Sales Corporation (DISC) program.

### **Competing in the Policy Arena**

As already noted, trade policy plays a critical role in shap-

ing the HVP import and export markets. The export policies in place abroad are such that any gain the United States might realize in HVP exports through more aggressive marketing could easily be reversed by relatively minor policy adjustments by the other exporters—particularly the EC. The most serious problem the United States faces here is the use of export subsidies to manipulate world market shares.

Hence, the marketing initiatives described above would have to be reinforced with U.S. pressure to win agreement from the other exporters to gradually liberalize their HVP policy regimes. This effort to neutralize—hopefully eliminate—offsetting trade policy reactions and program adjustments abroad is critical to any U.S. effort.

The tools available to win such an agreement from other exporters—short of the subsidy war described in the introduction to this chapter—are limited to pursuing U.S. complaints through the domestic injury procedure (the "301" procedure) and the international General Agreement on Trade and Tariffs (GATT) complaint procedures. Each is treated in greater detail below. In order to maximize their effectiveness, complaint efforts in these two areas would be reinforced by stronger U.S. pressure in other bilateral and multilateral forums for a more general reversal of the protectionist HVP trade policies built up since 1960.

**Subsidy Complaints.** Despite the bilateral and multilateral commitments made to trade liberalization since World War II, agricultural trade continues to be shaped by a plethora of restrictions. Given the priority generally afforded domestic agricultural policy goals relative to trade liberalization goals, most countries tend to use whichever import or export restriction advances their domestic goals most expeditiously—unless trading partners react so strongly that the cost of the expedient outweighs its benefits.

While 301 and GATT complaint procedures are available to the United States to redress the injuries suffered as a result of these restrictions, U.S. attempts to use them to resolve HVP problems have been unsuccessful so far. The lack of success relates not only to the cumbersome procedures involved but also to the limited number of cases filed and the need for more solid economic and legal documentation for the complaints filed.

The domestically centered 301 complaint procedure was established under the Trade Act of 1974 and strengthened under the Trade Agreements Act of 1979.

The procedure provides that the President will act expeditiously to eliminate any foreign trade practice that restricts or discriminates against U.S. commerce when a petition submitted by an injured party is found by the Special Trade Representative (STR) to be of merit. Should the STR accept the petition of an industry as providing "ample and meritorious evidence of injury, prejudice, or restriction," action is to be taken within 45 days through bilateral discussions with the foreign party or referral to GATT for settlement.

The GATT complaint mechanism involves consultations, conciliation, and some form of review by a panel of representatives from other member countries to judge on the evidence of injury or threat of injury. The key to the entire procedure as a means of discouraging unlawful trade acts—such as the use of export subsidies to obtain an inequitable share of the world market—is not only in having GATT declare the subsidy illegal but also in forcing the defendant country to rebut a complaint and pay the compensation awarded for the damages suffered should the subsidy be declared illegal.

U.S. success with this complaint procedure has been very limited to date. Even the relatively few complaints accepted by the STR have failed to win support at the GATT level and ended at best with no resolution of the issue. Six cases were filed in 1982 and are still pending in an attempt to test the effectiveness of the GATT dispute mechanism and the special GATT Subsidies Code (Interpretation and Application of Articles VI, XVI, and XXIII, known as the Code on Subsidies and Countervailing Duties) that went into effect January 1, 1980.

The general applicability of the Code to the HVP export subsidy issue has been widely accepted. One of the code's chief principles is that temporary—as opposed to permanent—farm surpluses are to be disposed of in an orderly manner so as to avoid any undue pressure on the world market resulting in lower commodity prices. Moreover, the country using export subsidies to dispose of surpluses is not to use them to gain more than an equitable share of world trade. Clearly, many U.S. HVP trade problems relate to other exporters' use of export subsidies not to dispose of a temporary surplus but as a means of expanding export market shares permanently and without regard to market prices.

Effective use of this complaint procedure in the future to control export subsidization in the HVP market will depend on winning the support of the GATT Council and the other member countries in enforcing the subsidies code and on more rigorous preparation of cases in the

United States. Problems have arisen in the past when the STR accepted cases without a thorough economic assessment of injury or when the case presented failed to meet legal requirements. As currently interpreted, the 301 and GATT complaint procedures entail a number of legal and political issues as well as the trade policy issues generally emphasized in U.S. complaints.

The recent findings of the GATT panel established at the U.S. request for an investigation of the EC's wheat flour subsidy program emphasizes the difficulty of effective use of the GATT procedure and the importance of substantiating damage. The panel decided in its February 25, 1983, report to the GATT Council that it was not in a position to conclude from the evidence presented by the United States that the EC had used refunds—or price undercutting in GATT jargon—to take more than a nebulously defined "equitable share" of the world wheat flour market. The U.S. response to date has been to resubmit its complaint and to expand documentation of the market displacement suffered in the process.

In the longer term, the United States will have to push for a modification of the GATT subsidies code to simplify the complaint procedure and to tighten the sections on fair trade practices. The modification of the code and better U.S. case preparation are critical in making the GATT complaint procedure work.

**Complaint Resolution Alternatives.** Successful use of the complaint procedures to raise the cost of the most flagrant cases of unlawful HVP export expansion is likely to be a costly procedure. At best, it is based on after-the-fact complaints actively pursued over a number of years. This weakness can be at least partially overcome if the United States takes a more flexible stance on resolving specific complaints through informal discussions with other exporters while aggressively lobbying for general reform—possibly in conjunction with the selective use of subsidies described in the introduction to this chapter.

Most of the major HVP exporters have participated in or supported marketing accords designed to resolve product-specific subsidy and market share issues similar to those involved in HVP trade. Agreements have been made among the major traders at different times over the last decade on citrus, poultry, and several other products. The United States might well find it advantageous to use this avenue to resolve complaints against the EC and Brazil more expeditiously and ultimately at a lower cost to U.S. trade interests. Public demonstration of U.S. concern, combined with flexibility on how and where issues are

discussed and settled, could work to resolve many issues before they escalate to major problems here or abroad.

Selection of the key trade policy questions with the greatest potential payoff for the United States could ultimately expand HVP exports more than a general liberalization of trade. For example, EC wheat flour and poultry subsidies on sales to third countries appear to be more negotiable than access to the home EC market. Strong U.S. statements of concern, backed up with a willingness to market as aggressively as needed but to negotiate market accords where possible, could well prove to be the most successful route for U.S. trade interests.

The basis of this EC-U.S. dialogue might well be the concern of both parties in exporting as a means of supporting domestic farm incomes and improving the functioning of the world market. Similar domestic budget pressures, combined with U.S. trade policy pressure on other countries that subsidize in markets of interest to the United States, can also be effective in bringing about reform—if not the elimination of HVP export subsidies, then at least their binding and gradual reduction.

## Conclusions

The range of HVP marketing and trade policy initiatives described above would require a significant increase in government funding and interest in the HVP market. The payoff in expanding HVP exports, however, is likely to more than justify the effort.

As mentioned in the introduction of this report, the payoff on expanding U.S. HVP exports involves increased employment, GNP, government revenues, and foreign exchange earnings. Given the world HVP import demand projected for 1990, an increase in the U.S. share of the market from 10 percent to possibly 15 percent would entail an added \$15 billion in sales. Given the labor relationships shown earlier in this report, this \$15 billion difference could mean 1 million jobs in the farm sector and elsewhere in the economy. The larger U.S. market share would also generate up to \$50 billion in added economic activity. The most obvious cost involved in realizing gains of this magnitude is the political capital needed to get an HVP marketing program going and the \$500 million to \$1 billion per year needed to fund more aggressive HVP export promotion and credit programs.

However, a shift to greater U.S. participation in the HVP market might have several other hidden costs. U.S. multinational companies located abroad—particularly in Western Europe—play a dominant role in foreign HVP ex-

ports. The multinational phenomenon is at least partially responsible for the small U.S. share of HVP exports relative to total agricultural exports—less than 30 percent in 1980 compared with over 70 percent for the EC. Relatively few European and Japanese food-manufacturing firms are multinational; however, several of the largest U.S. food processors, such as International Multifoods and Coca Cola, draw close to half of their revenues from international operations.

From a multinational corporation and a U.S. Government revenue point of view, the return on exporting U.S.-produced HVP's directly might be less than the return on U.S. investment in the manufacture of HVP's abroad. A U.S. strategy aimed at increasing the share of U.S. HVP exports has to be assessed in light of this multinational phenomenon. U.S. labor would benefit from greater processing of export-bound agricultural commodities within the United States, but aggregate U.S. income effects are less clear. Trade liberalization efforts on the part of the EC, for example, could well reduce the competitiveness of U.S. subsidiaries located in Europe and, by so doing, reduce their profits and the repatriation of earnings to the United States.

Also to be weighed against U.S. HVP export gains is slower growth or possibly losses in U.S. exports of HVP inputs and food-processing technology and machinery. The United States is currently the world's largest exporter of the bulk farm inputs used by the other exporters to produce HVP's. The United States is also the world's leading manufacturer and exporter of food-processing machinery. Liberalized trade in HVP's could have the same impact on trade in these products as substituting domestically produced HVP's for HVP's produced abroad but marketed by U.S. multinational corporations. While gross revenue from HVP exports would increase with more aggressive U.S. marketing, at least part of the increase would be offset by U.S. losses in the machinery and input trade.

Despite the importance of these considerations, however, they remain secondary. The magnitudes involved in repatriated earnings and input and machinery trade fall far short of the gains to be realized through larger direct U.S. HVP exports. The gains in economic activity, employment, and export earnings associated with increased U.S. HVP exports appear large enough to justify adoption of the aggressive marketing stance and trade policy initiatives outlined above.

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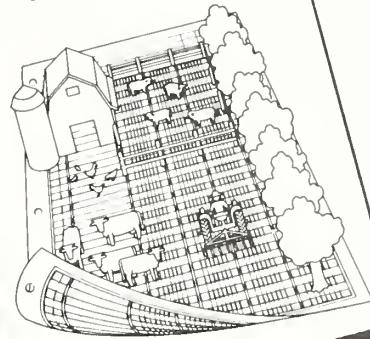
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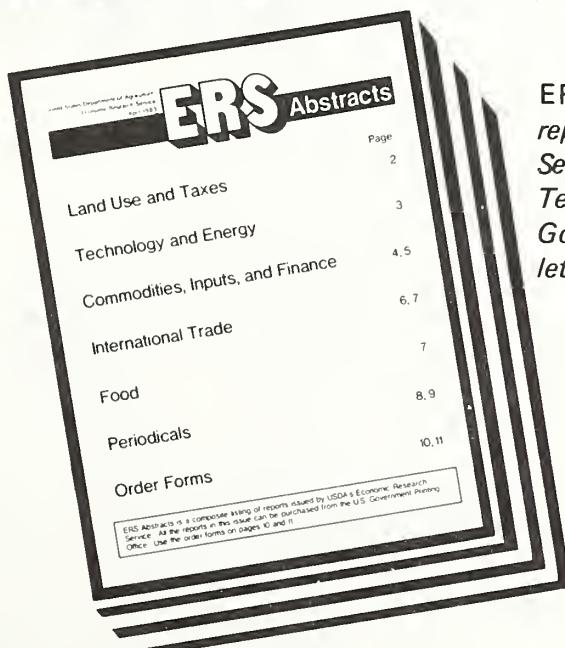
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The report includes extensive tables and charts on Japanese consumption, production, and trade of beef, dairy, poultry, fish, and feed grains, including projections through 1990.

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# Agriculture in Western Europe

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**Developments in the Common Agricultural Policy of the European Community** examines the directions the EC's Common Agricultural Policy (CAP) may take in order to avert a budget crisis and reports the implications for trade with the U.S. and other countries. According to authors Timothy Josling and Scott Pearson, the ever-increasing farm subsidies prescribed by the CAP will seriously harm the EC's ability to meet other policy needs and will hinder enlargement of the Community to include Spain and Portugal. EC policymakers may have to either keep prices low directly or with producer

taxes, or limit quantities covered by subsidies. June 1982. 88 pp. \$5.50.

**The EC Market for U.S. Agricultural Exports: A Share Analysis** assesses the market potential for all major U.S. ag exports to the EC. Author Harold McNitt finds that the United States will continue as a leading supplier to the EC of soybeans, sunflowerseed, corn and corn gluten feed, peanuts, citrus pulp, some animal products, and soybean meal during 1981-85. EC trade policies, however, sharply restrict imports of most fruits and vegetables, processed foods, and meats. March 1983. 92 pp. \$5.00.

**Sweden's Agricultural Policy**, one of the few English sources on contemporary Swedish agricultural policy, covers the major provisions of Sweden's 1982-84 farm program. "An accurate and concise presentation," says the Swedish Ambassador to the United States. Sweden's policy objectives are to reduce government subsidies for agricultural exports (a major aim of U.S. world trade policy), to cut back on consumer food subsidies and farmer compensation programs, and to make the levies on imports more responsive to market conditions. Chief U.S. exports to Sweden include fruits, vegetables, nuts, and tobacco, which are relatively unaffected by Swedish import levies, and grains. October 1982. 44 pp. \$4.25.

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